National Library of Canada
Canadian Theses Service
Ottawa, Canada
K1A 0N4

Bibliothèque nationale du Canada
Services des thèses canadiennes

CANADIAN THESES

THÈSES CANADIENNES

NOTICE

The quality of this microfiche is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed.

Reproduction in full or in part of this film is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30. Please read the authorization forms which accompany this thesis.

AVIS

La qualité de cette microfiche dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, examens publiés, etc.) ne sont pas microfilmés.

La reproduction, même partielle, de ce microfilm est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30. Veuillez prendre connaissance des formules d'autorisation qui accompagnent cette thèse.

THIS DISSERTATION
HAS BEEN MICROFILMED
EXACTLY AS RECEIVED

LA THÈSE A ÉTÉ
MICROFILMÉE TELLE QUE
NOUS L'AVONS REÇUE

NL 339 (r. 86/01)

Canada

National Library of Canada / Bibliothèque nationale du Canada

79

Ottawa, Canada
K1A 0N4

TC –

0-315-23276-5

CANADIAN THESES ON MICROFICHE SERVICE – SERVICE DES THÈSES CANADIENNES SUR MICROFICHE

PERMISION TO MICROFILM – AUTORISATION DE MICROFILMER

• Please print or type – Écrire en lettres moulées ou dactylographier

AUTHOR – AUTEUR

Full Name of Author – Nom complet de l'auteur

CHRISTOPHER JAMES SMITH

Date of Birth – Date de naissance

23 / 4 / 1961

Canadian Citizen – Citoyen canadien

☐ Yes / Oui ☑ No / Non

Country of Birth – Lieu de naissance

ENGLAND

Permanent Address – Résidence fixe

3, CARMEL GARDENS ARNOLD
NOTTINGHAM, ENGLAND

THESIS – THÈSE

Title of Thesis – Titre de la thèse

HEALTH CARE PROBLEMS FACING A SELECTED URBAN ELDERLY POPULATION IN EDMONTON

Degree for which thesis was presented
Grade pour lequel cette thèse fut présentée

M. A

Year this degree conferred
Année d'obtention de ce grade

1985

University – Université

UNIVERSITY OF ALBERTA

Name of Supervisor – Nom du directeur de thèse

K FAIRBAIRN

AUTHORIZATION – AUTORISATION

Permission is hereby granted to the NATIONAL LIBRARY OF CANADA to **microfilm** this thesis and to **lend** or **sell copies of the film.**

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

L'autorisation est, par la présente, accordée à la BIBLIOTHÈQUE NATIONALE DU CANADA de **microfilmer** cette thèse et de **prêter** ou de **vendre des exemplaires du film.**

L'auteur se réserve les autres droits de publication, ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans l'autorisation écrite de l'auteur.

ATTACH FORM TO THESIS – VEUILLEZ JOINDRE CE FORMULAIRE À LA THÈSE

Signature

Date

6/9/85

NL-91 (r. 84/03)

Canada

THE UNIVERSITY OF ALBERTA

HEALTH CARE PROBLEMS FACING A SELECTED URBAN ELDERLY POPULATION IN EDMONTON

by

CHRISTOPHER J. SMITH

©

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF ARTS

GEOGRAPHY

EDMONTON, ALBERTA

FALL 1985

THE UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR CHRISTOPHER J. SMITH

TITLE OF THESIS HEALTH CARE PROBLEMS FACING A SELECTED URBAN ELDERLY POPULATION IN EDMONTON

DEGREE FOR WHICH THESIS WAS PRESENTED MASTER OF ARTS

YEAR THIS DEGREE GRANTED FALL 1985

Permission is hereby granted to THE UNIVERSITY OF ALBERTA LIBRARY to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

(SIGNED) .....

PERMANENT ADDRESS:

3, CARMEL GARDENS,

ARNOLD, NOTTINGHAM, ENGLAND

DATED 6th Sept. 1985

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled HEALTH CARE PROBLEMS FACING A SELECTED URBAN ELDERLY POPULATION IN EDMONTON submitted by CHRISTOPHER J. SMITH in partial fulfilment of the requirements for the degree of MASTER OF ARTS.

.....
Supervisor

.....

.....

Date Sept 3, 1985

Abstract

This thesis examines the relationships that exist between a selected elderly urban population and the primary health care services in Edmonton. The discussion centres upon initially a review of the elderly as an urban minority group, and their relationship with, and dependence upon, the current medical services. This leads to the generation of two main research problems upon which the remainder of the thesis concentrates. The first research problem is concerned with the elderly and difficulties in reaching health care and considers whether personal characteristics such as age, functional capacity, and social isolation are more important in explaining difficulties in reaching health care than external geographic variables such as distance and method of transport. The relative influence of these variables, upon health care accessibility is therefore measured. The second research problem centres upon the provision and delivery of the current primary medical services to the sample elderly. The policies, organization and personnel attitudes of the health services and their employees are considered in light of the specialised health care needs of an aging population. The final conclusions reached indicate that firstly, the sample elderly do face difficulties in reaching the available health care services and that these difficulties are related to disability and social isolation, and secondly, that the present primary health care provision/delivery is inappropriate given the the needs of the sample elderly and needs to be redefined to better suit the demands of an aging population. This redefinition will not only benefit the increasing numbers of elderly but it will also result in a more effective and efficient health care service for all users.

Acknowledgements

I would like to thank Professor Kenneth Fairbairn for his help and advise in completing this thesis. His perseverance and patience were much appreciated. I must also make mention of my dear wife Brenda, without whose continual help and support this study might never have been completed.

Table of Contents

Chapter — Page

I. INTRODUCTION 1

A. Urban Public Services 1

B. The Elderly and the Health Services 5

C. A Review of the Literature 6

The gerontological literature - with specific reference to availability and accessibility 7

Geographers and services with specific reference to the elderly and health care 14

D. Research Objective 22

E. Thesis Hypotheses 22

First hypothesis 22

Second Hypothesis: 23

II. CHARACTERISTICS OF THE ELDERLY POPULATION 26

A. The Elderly in Canada 26

Population aging 26

The elderly and health care 28

Health care problems of the elderly a national perspective 30

B. The Elderly in Alberta 32

Population and distribution 32

Socio-economic characteristics of the elderly 34

The elderly and health care 36

C. The Elderly in Edmonton 38

Population and distribution 38

Senior organizations and societies 40

Senior citizen centres in Edmonton 46

The elderly and health care 51

D. Summary 56

III. THESIS APPROACH AND METHODS 57

A. Introduction 57

B. The Questionnaire and Detailed Studies 58

The design 58

Target population 61

C. Questionnaire Delivery and Detailed Study Preparation 62

The pre-test 63

The sample population 63

Method of delivery 64

Data analysis 68

D. Summary and Conclusions 68

IV. DESCRIPTIVE STATISTICS OF THE SAMPLE POPULATION 70

A. Introduction 70

Age 70

Sex 72

Functional capacity 72

Housing type 73

Income 76

Location and residential status 78

B. Summary and Conclusions 78

V. THE ELDERLY AND DIFFICULTIES IN REACHING HEALTH CARE 79

A. Introduction 79

B. The Difficulties Facing the Elderly in Reaching Health Care 80

C. The Influence of Personal and Geographic Variables on Difficulties in Reaching Health Care 81

Age 82

Functional Capacity 82

Social Isolation 82
Distance-Travel Time 85
Method of Transport 87
Difficulties in Reaching Health Care 87
Findings 87
Summary 89
D. Conclusion: The Elderly and Difficulties in Reaching Health Care 91
VI. THE PROVISION AND DELIVERY OF HEALTH CARE FOR THE ELDERLY ... 93
A. Introduction 93
B. Primary Health Care Services for the Elderly 95
The day hospital provision 95
Specialist geriatricians within the city 98
C. The Conclusion: Primary Health Care for Seniors within Edmonton 100
D. The Delivery of Primary Health Care to the Elderly 101
Delivery Variables 101
The Impact of Personal Variables on Health Care Delivery 106
E. Conclusion: The Delivery of Health Care to the Elderly 109
VII. THESIS CONCLUSIONS 111
A. Introduction 111
B. Thesis Results 111
C. Thesis Contribution 113
D. Areas of future research 114
E. Health Care Policy Refinements 115
F. A Concluding Statement 117
Bibliography 119

List of Figures

Page

1 Proportion of Total Elderly (65+) by Census Tract 1971 39

2 Proportion of Total Elderly (65+) by Census Tract 1981 41

3 Proportion of Total Elderly (70+) by Census Tract 1981 42

4 Strathcona Place Society Membership 49

5 Edmonton Hospitals 53

6 Questionnaire sample by age 71

7 Functional capacity based on the Townsend Index 74

8 Sample population housing type 75

9 Sample population sources of income 77

10 Means, standard deviations and zero-order correlations for all variables 88

11 Stepwise regression of independent variables on difficulties in reaching health care 90

12 Means, standard deviations and zero-order correlations for all variables 102

13 Stepwise regression of independent variables on delivery variables 108

List of Tables

Page

1 Percentage of population aged 65 years and over, Canada and the Provinces, 1971 and 1981 29

2 Population 65 years and over and 85 years and over Alberta, 1901-1981 33

3 Distribution of population 65 years and over by health unit, Alberta, 1971 and 1976 35

4 Difficulties in reaching health care by age 83

5 Difficulties in reaching health care by functional capacity 84

6 Difficulties in reaching health care by family visits 86

7 Waiting room time by age 107

I. INTRODUCTION

A. Urban Public Services

Delivering services is the primary function of municipal government. It occupies the vast bulk of the time and effort of most city employees, is the source of most contacts that citizens have with local government, occasionally becomes the subject of heated controversy, and is often surrounded by myths and misinformation. The services performed by municipalities are those most vital to the preservation of life (police, fire, sanitation, public health), liberty (police, courts, prosecutors), property (zoning, planning, taxing), and public enlightenment (schools, libraries). Teitz (1968) emphasized the importance of urban public services to the consumer:

> Modern urban man is born in a publicly financed hospital, receives his education in a publicly supported school and university, spends a good part of his time travelling on publicly built transportation facilities, communicates through the post office or the quasi-public telephone system, drinks his public drinking water, disposes of his garbage through the public removal system, reads his public library books, picnics in his public parks, is protected by public police, fire, and health systems; eventually he dies, again in a hospital, and may even be buried in a public cemetery. Ideological conservatives notwithstanding, his everyday life is inextricably bound up with government decisions on these and numerous other local services.' (p. 36).

In short, services, their number, quality and even location, are collectively a key determinant of the quality of urban life.

In recent years public urban services have become an issue of both controversy and debate. It is has been the cost of urban services (and service purveyors) which has so frequently captured the popular headlines, and the delivery of these services about which neighbourhood and local groups have argued so strongly. Underlying these arguments has been a continued debate on, firstly, the nature of service distributions themselves, in an attempt to discover the rationale that they follow, if any and secondly, the very role of or need for services in a modern society.

As far as production and delivery goes public urban services are provided in a manner analogous to the operation of private sector industries. Public urban service delivery, however,

differs substantially from the private production of goods and services. Firstly, few public organizations must perform in a certain way or cease to exist. The environment of public service delivery organizations is usually much more benign. Secondly, in public sector bureaucracies the structure of decision-making has a much more direct and discernible impact on the distribution of benefits to citizen-consumers. Decisions about who may benefit from public services, and who may not, directly determine the type and range of services provided. These considerations, then, suggest that the student of urban public service delivery should focus on the connections between the decision-making mechanisms in the organization and the citizens who are the actual and potential recipients of the services provided.

Being responsive to citizen needs and demands is presumably the cornerstone of urban service provisions. There are and have been, however, frequent allegations that not all share equitably in the bounties of urban services, even that their provision is not made according to needs or demands but more a product of administrational and political philosophy (Harvey, 1973;Coates et al, 1977). But generalizations concerning service distributions are hazardous. The answer to the question "who gets what where" seemingly differs from community to community and even from service to service.

To date there is no clear evidence to suggest that public services are more equitably distributed now than in the past. One fact which does seem clear, however, is that an equitable service delivery cannot be usefully equated with the provision of equal (identical) services to unequal groups with varied needs and demands. Inspite of this fact, Ostrom (1974) observed that:

> 'administrators will generally opt for officially uniform service delivery in order to ease management tasks or avoid charges of discrimination.'(p. 693)

If services are to be delivered equitably, however, then needs must be satisfied ahead of demands and desires. In short, 'to each according to his need', so that those in the greatest need receive the greatest service. As Harvey (1973) commented:

> 'Individuals have rights to equal levels of benefit which means that there is an unequal

allocation according to need.' (p. 100)

Rich (1979) went as far as to say that being equitable was being equally responsive - that is responding to and satisfying equally all the needs that arise.

Previous studies have suggested, however, that minority groups living in metropolitan areas have failed to be served, according to their needs, by the existing services (Antunes and Plumlee, 1978; rich, 1979; and Lineberry, 1977). The minority groups frequently identified have included various immigrant groups, the very poor and the aged, all of whom seemingly have special service needs above and beyond the general populous, and reduced resource levels to secure these needs. The problems described relate essentially to both the availability of services initially, and secondly problems in gaining physical access to services potentially available.

These two major problems affecting service use can be interpreted by considering the concept of service distribution in two broad dimensions. The first, influencing the concept of availability, is the allocation of public funds among alternative types of services. This decision determines which among an array of potential services the state will provide and at what level each will be provided. From the standpoint of minority groups this can result in services being provided for which they have no real use. Mladenka and Hill (1978), investigating police activity levels within black urban neighbourhoods, concluded that the surveillance measures enforced were well above those essentially required to maintain law and order and as a consequence were the largest single source expenditure in the city budget. Similarly, Jones (1980) noted the over-provision of non-essential library services within poor urban neighbourhoods while street lighting needs and road repairs were overlooked. Bish and Ostrom (1975) concluded generally that minority groups often received collective goods that they did not really require or want and yet were denied those that they did.

The second dimension of service distribution relates to the concept of accessibility, and is reflected in the allocation of those services that 'are' to be provided among the various population groups, determining who will get how much of the available service, where the

service centre will be located and the design and orientation of the delivery itself. Studies discussing accessibility problems have focused, particularly, on the discrete location of the service itself and its design and orientation. In questions of accessibility and service location the key factor investigated has been that of distance from varied target populations - with the results from studies suggesting that often services are located outside of low-income or low-status areas. For example, Morris (1976) working in Melbourne noted the proliferation of doctor's surgeries within the higher-income suburbs of the city and the lack of such facilities in inner city areas. Similarly, Stimson (1982), within Sydney, indicated the presence of improved schools and further education facilities outside of low-income neighbourhoods.

The design of some services has also been shown to reduce its accessibility, more so in a non-geographical sense, further to minority groups. Adrian (1983) investigating the design and organization of bus routes noted their tendency to conform to standardized mass-transit routes and patterns thereby producing high-costs and irregular services for many lower income areas and failing to meet the needs of non-rush hour commutors. Similar conclusions were also reached by Garetz and Peth (1974).

Of the two distributive decisions, the former often has the most impact. Decisions about what service to fund set the broad framework within which all other distributive decisions are made, and therefore set constraints on the impact of these decisions on people's lives. Both decisions, however, do have significant influences upon the service users or non-users. When investigating the causes of the urban riots that rocked many American cities in the mid-1960's, for example, the Kerner Commission found that alleged inadequacies in the provision of services were among the most serious grievances of many of the inner city residents.

In summation it can be said that minority groups often do face difficulties in satisfying their needs through the existing public service provisions simply because they express needs not common to the populous as a whole (Rich 1979). The major problems outlined within the service literature include firstly, problems of a simple lack of provision of adequate services to satisfy minority needs; secondly, an inappropriate provision of services resulting in facilities

being provided that the population does not or can not effectively use; and thirdly, problems of accessibility to the services objectively 'available' - both in terms of physical distance and contact barriers.

An example of one of the major 'minority' groups frequently identified as experiencing accessibility and availability problems with public services is the elderly. Further, within usage problems generally, one of the services most frequently cited for difficulties is the health care services.

B. The Elderly and the Health Services

While old age is not an illness it can certainly be regarded as handicap which invariably places a greater burden upon the individual as age advances. The elderly, therefore, become heavily dependent upon the available services and their subsequent delivery. For example, they have special transportation and housing needs (Lawton and Hoover, 1981; Stirner, 1978), are more prone to criminal attack, and are subject to a disproportionate amount of illness and utilization of the health care services (Davis and Reynolds, 1975). In short, the elderly have a greater need for and dependence upon, public services than society in general. Past studies have shown, however, that the elderly face difficulties regarding both the availability of (provision of), and accessibility (journeying to) to the current urban services (Beaver, 1981; Harris, 1975).

Planning and service delivery systems need to be designed to assure flexibility in response to the ever-changing nature of the populations that they serve. The present network of services, however, retain a level of rigidity which makes catering for the specialised needs of minority groups such as the elderly, difficult (Bish and Ostrom, 1973). As the system currently functions it is the responsibility of the individual to determine what kind of services he or she needs, where they are available, and how to 'orchestrate' a comprehensive service package. Elderly individuals with limited personal and physical resources find such responsibilities difficult to accept and therefore often face considerable problems in utilizing the 'available'

services.

Among the urban services provided for the elderly, health care stands out as being of paramount importance a consequence of the general decline in health with old age (Skelton, 1977). Advancing age is almost inevitably accompanied by increasing health problems and decreasing energies, which affect ultimately the 'quality of life' as the elderly become heavily dependent upon the available health care services and their subsequent delivery. There is, however, strong evidence to suggest that, as with urban services in general, not all share equitably in the availability of, or accessibility to, the health care services (Phillips, 1981; Smith, 1977; and Hammerman, 1974). The elderly, despite their strong reliance upon such services, have been frequently identified as one of the major groups experiencing difficulties in utilizing the available services (Beattie, 1976). These difficulties are a result of both service culture characteristics and those of the elderly themselves (Diamond et al, 1983; Anderson et al., 1980).

To determine the nature and extent of these difficulties the literature will now be reviewed pertaining to the provision of health care for the elderly. Particular attention will be paid firstly to the availability and accessibility aspects of health care incorporated within past studies and secondly, to the geographical interest that has developed surrounding the provision of health care.

C. A Review of the Literature

In considering the elderly and the primary health care services any review of the literature to date represents a considerable task because of the wealth of material available. Therefore, within the present study, only a selected review has been attempted in an effort to link the current geographical viewpoint with that of work carried out in other disciplines such as gerontology and the medical sciences. There are numerous common links and overlaps between the two bodies of literature with both areas producing findings and reaching conclusions that cross discipline boundaries. It is the objective of this current review, however,

to consider the literature from essentially a geographical perspective isolating the work undertaken with reference to the two key concepts of availability and accessibility which emerged from the brief review and discussion of services in general. Availability, within this context refers firstly, to the presence of a service with a discussion of both the quantity and quality of care provided, and secondly, a discussion of its relevance regarding the needs of the population dependent upon the service. Accessibility, meanwhile, refers to the actual journey to the 'available' service considering the factors that interact to interfere or prevent contact or use. The gerontological literature will be reviewed first because its specific relevance to this particular study. This will then lead on to a consideration of the geographical references.

The gerontological literature - with specific reference to availability and accessibility

From a gerontological perspective numerous previous studies have produced similar evidence, but in varying locations and situations, to suggest that the elderly currently living within metropolitan areas face problems of both availability and accessibility in dealing with the current primary health care services (Smyer, 1980; German et al., 1978; Auerbach, 1977; Ward, 1977; Cantor and Mayer, 1976; Harris, 1975; Gaitz, 1974; Hammerman, 1974; and Battistella, 1971). Hammerman (1974), working within the North American health care context, concluded:

> 'There is ample evidence to indicate that the aged have not been successful in securing appropriate health services.' (p. 256)

This conclusion was based on his overall review of a series of studies and his isolation of several 'key' factors influencing service use for the elderly including system fragmentation and uneven funding. Considering the general question of the availability of services first the following results have been obtained.

Availability of health care for the elderly

The elderly overall are the major beneficiaries of health care treatment and use more services per capita than any other age group. The results of past studies have shown,

however, that in many ways the health services are currently ill-equipped to deal with the demands of an aging population. Hammerman (1974) concluded that the present health service efforts, aimed at the population in general, were strongly orientated towards a crisis viewpoint, with a strategy of diagnosis, treatment, and recovery (or death) for acute episodic illnesses instead of a chronic, long-term care perspective that the elderly essentially require. Skelton (1977) and Skoll (1981) stated further that the elderly in using the current health care system do not fit into the present short-run, or temporary care, model. The key to treating the elderly involves the adoption of a long-term care continuum of services concept that can provide the least restrictive method for meeting the particular needs of them. Skelton (1977) summarized the present difficulties a stage further, observing that aging was not a short-term process and therefore service models based on the premise that the problems of aging were self-limiting were thus likely not to satisfy the needs of the patient and eventually fail.

Hammerman (1974) commented similarly upon the organization and coordination of services. He concluded, within the North American context, that there were problems of a general disarray amongst the current health services that ultimately limited the availability of health care for seniors. This conclusion has been substantiated by both Skelton (1977) and Diamond et al. (1983). Firstly, Skelton (1977) concluded that the present health care services were too compartmentalized, lacked an overall direction, and provided a service which resulted in the elderly often being denied continuous and comprehensive care. Secondly, Diamond et al. (1983) suggested that health care for the elderly would improve if the current health care system was more comprehensive, better integrated and well managed. The effects of these service system weaknesses were measured by both Kovar (1977) and Patterson (1976) who suggested that such policy failings did cause the elderly to withdraw from seeking care.

A further aspect of service availability has been investigated by Stephens (1978) and Anholt (1975) who both, in separate studies, noted the lack of health care personnel

specializing within the area of geriatric medicine, a trend resulting in a continued shortage of trained geriatricians (Skelton, 1977; Clarkson, 1977). Stephens (1978) concluded that health care personnel were often not particularly interested in working with the elderly, outlining three major reasons for this conclusion.

I. The field is depressing, difficult, not challenging and frequently unpleasant.

II. There is an inadequate knowledge about chronic illnesses.

III. Doctors suffer from a fear of aging themselves, 'gerotophobia', which manifests itself in a doctor being cold and business like or paternalistic with an elderly person.

In summation it can be concluded that numerous previous studies have outlined and discussed weaknesses in the availability of health care for the elderly concerning both its overall organizational aspects and quantitatively regarding the facilities and personnel currently available. Evidence within the gerontological literature also points, however, to further discrepancies within the health care system that also affect service availability for seniors involving related qualitative variables, instead of purely quantitative factors.

Cantor and Mayer (1976), for example, concluded that the elderly frequently faced problems of the insensitivity of doctors and nurses to their needs and inconvenient service hours and long waiting-room times: the latter being a conclusion supported by Hess and Markson (1980). Snider (1976) observed also that the elderly who either made multiple use of doctors, or who made use of multiple doctors, felt that the waiting and appointment systems were inappropriate. He also found a weak relationship indicating that those elderly who in fact needed doctors the most felt that they were treated with less concern than the populous in general and had more trouble in obtaining physician contact.

Szasz (1974) outlined the problem of doctors tending to 'infantalize' elderly patients resulting in problems of unsympathetic diagnoses and seniors complaining of a loss of dignity. Anholt (1975), working within the Alberta context, concluded that discrimination by health care personnel towards the elderly was a problem within the province's health care services. A finding re-iterated by Keeler et al. (1982) working in

Southern California.

Within many past gerontological studies dealing with questions of the availability of health care for seniors a common thread of weaknesses have been noted both in the quantity of care currently available and the quality of treatment delivered. These failings result in the elderly facing difficulties in dealing with the current health services since many of their needs and aspirations must therefore remain unmet.

Accessibility of health care to the elderly

Numerous studies have pointed to the problems that the elderly face in travelling to the various urban health services available (Ward, 1977; Cantor and Mayer, 1976; Harris, 1975; Hammerman, 1974; and Shannon et al, 1969). The main factors variously interpreted as influencing such difficulties have essentially revolved around the internal characteristics of the elderly patients. The gerontological literature presents three main factors as having as important influence.

i. Age

ii. Functional capacity

iii. Social isolation

i) Age

It is medically proven, as Skelton (1977) observed, that the incidence and prevalence of many degenerative diseases is increased in the older patient and their ability to adjust or recover from illness and adopt to changed circumstances may be impaired. Numerous previous studies similarly point to a relationship between increasing age and increasing difficulties in reaching health care (Battistella, 1971; Law and Chalmers, 1976; Kart, 1981; and Streib, 1983). Although the exact form of the relationship is far from clear many of the very elderly do face problems with walking difficulties, lack of social support groups and generally low levels of health. Advanced age often results in the loss of sight or hearing which drastically reduces the ability to gather and discern information, and late life problems such as phobias and demention can also have a profound influence

(Rathbone-McCuan and Hashimi 1982).

ii) Functional Capacity

Old age does herald a dramatic decrease, as previously discussed, in physical ability and the elderly of advanced years do increasingly face such problems (Skelton, 1977). For the elderly, declining physical ability results in limited personal mobility and falling transportation skills as walking difficulties arise and energy levels slump. They still face, however, journeys to and from health care when treatment is required, as it often is, following from the increased health difficulties of old age. Such conflicts as falling mobility skills and increased health problems create difficulties for the functionally incapacitated elderly attempting to reach the health care services (Coulton and Frost 1982; Smyer, 1980; Brody, 1974; and Miller and Gwynne, 1972). For example, a short journey to see a physician by a senior who is disabled by arthritis and/or requires a walking aid becomes both a difficult and time-consuming venture. The Canadian Governmental Report on Aging (1982), recognizing these travelling problems of many of the aged, commented specifically upon the problems that many of the functionally incapacitated elderly faced regarding transportation problems when attempting to use the present public urban services. In short, the disabled or incapacitated elderly often face difficulties in travelling to and from health care, as described within the gerontological literature. This suggests that new policy statements are required in order to either transport the elderly to the available treatment centres or ensure that they receive care in the home environment.

iii) Social Isolation

Past studies have indicated that the community-based elderly are often characterized by a form of social isolation (termed by Snider, 1976; as 'disengagement') (Totman, 1979; Rathbone-McCuan and Hashimi, 1982; and Shapiro and Roos, 1985).Advancing age generally results in a decrease in personal mobility (walking, climbing stairs, etc.), increasing health problems, a slowing down of reasoning power, and a loss of perceived usefulness. Unless family and/or friends/neighbours are therefore close at hand

these symptoms can combine causing an elderly person to effectively withdraw from social contacts. The likelihood of social isolation is increased in the elderly as a result of many factors. For example retirement, the loss of friends and/or relatives, migration, the dealth of a spouse, decreased personal income (pension) resulting in reduced social interaction opportunities, the loss of social skills as a result of impaired hearing and/or reduced sight, and the late life development of psychological phobias and depression. Social isolation as a result of one or more of these aging factors, can lead to difficulties in travelling to health care when required.

Cantor and Mayer (1976), for example, found that 40 per cent of the Spanish elderly in New York, who held back from utilizing the health care facilities, cited the reason that they had no-one to take them. Both Petty (1976) and Snider (1973) further outlined the importance of support groups from the standpoint of providing assistance and guidance in seeking aid, and travelling to health care. Shapiro and Roos (1985) concluded, from their study of elderly non-users of health care in Manitoba, that being less well 'connected' to others, in terms of social contacts, was a factor that constituted a significant barrier in the use of, and access, to medical care generally.

In summation, throughout the gerontological literature, as with age and functional capacity, social isolation has been variously described as a variable influencing difficulties in reaching health care for selected urban elderly population The variables discussed here individually have, however, been described in combination form as characteristics of the elderly variously described as the 'vulnerable elderly' the 'population at risk' or more commonly the 'frail elderly'. Within the context of the current study the frail elderly therefore can be singled out as a sub-group, since as a distinct minority they face considerable service availability and accessibility problems.

iv) <u>The frail elderly</u>

One of the major 'breakthroughs' within gerontology was the recognition that the elderly are a heterogeneous body and not merely one large group with similar services needs

and desires or with equal resources at their disposal to secure these needs (Neugarten, 1974). The frail elderly have been identified as that portion of the elderly population most desparately in need of services and yet possessing very few of the resources required to obtain these benefits. (Moen, 1978; Petty, 1976; and Battistella, 1971). The characteristics of this group, as described throughout the literature are essentially threefold. They include firstly, an age of 75 years or over (Streib, 1983; Yordi et al., 1982; O'Brien and Wagner, 1980; and Calgary Health services, 1979), secondly a decreased capacity for self-care in terms of functional capacity, that is the ability to perform simple household tasks (Streib, 1983; Yordi et al., 1982 and Calgary Health Services, 1979), and thirdly, general social isolation as represented by living alone and loss of immediate family (Streib, 1983; Yordi et al., 1982; O'Brien and Wagner, 1982; and Calgary Health Services, 1979). These factors combine to produce difficulties for the frail elderly in gaining access, or simply use of, the available health care services upon which they are heavily dependent (O'Brien and Wagner, 1980; Battistella, 1971). Therefore, amongst the community based elderly it is very often the frail elderly who while requiring most services, at the same time experience the most difficulties in securing this care.

Conclusion: the availability and accessibility of health care a gerontological perspective

The elderly because of their considerable needs for health care services generally require more per capita treatment than, for example, an early adulthood patient. They face, however, considerable difficulties in dealing with the present health care services both in terms of the amount and the quality of care currently available and problems that they face in travelling to facilities and centres to receive treatment.

The gerontological literature showed that three characteristics of the elderly were important in influencing their use of health care - namely age, functional capacity and social isolation- and that these reached major proportions within the frail elderly. In the light of this conclusion within the present study, as one phase of the analysis, the relative importance of the variables wil be measured to determine their influence upon difficulties

in reaching health care.

Geographers and services with specific reference to the elderly and health care

The review of the gerontological/medical sciences literature revealed the emergence of numerous studies either focused directly or related to the availability and/or accessibility of health care services for the elderly. Within these studies a series of recurrent variables were illustrated that influenced the relationships between the elderly variously described and the health care services. Geographers from a different perspective have shown a considerable interest in services in general and health services in particular, considering questions of both availability and accessibility. In terms of work on the elderly and health services, however, few studies have been carried out with a major geographical component involved (Rowles, 1978), although in recent years a growing interest in the field has become apparent (Warnes, 1981).

Within the study of services generally, however, geographers have historically shown a research interest. Afterall, the delivery of services, and their use, has an implicit geographical element since every service development or proposal has the capacity to benefit some people at certain locations more than others. Indeed, it would be very difficult, if not impossible, to construct any facility, or provide any service, which would be of an equal benefit to every citizen. Geographical distance and accessibility alone, therefore, mean that some will be (literally) better placed through proximity to enjoy the advantages or disadvantages of a service whether it be a hospital, concert Hall, motorway, factory or sewage works. Regarding the health care services, geographers have been equally active for as Smith (1979) concluded:

> 'Health care is perhaps the most basic of all services, for on this may depend whether a newly-born child lives or dies, whether we survive illness or accident, and if we recover; whether we retain full use of essential faculties or suffer permenant handicaps.'

In comparison with the gerontological literature geographical studies on health services can be viewed from the two main standpoints of availability and accessibility with substantive geographical contributions being apparent in both areas.

Availability of health care

The availability of health care has attracted considerable geographical attention since the development of such studies within the early 1960's (Smith, 1974). The main objective of much of the inquiry has focused upon the identification and/or measurement of spatial disparities in the provision of health care services at various levels of aggregation. This information while being of valuable geographical concern has also provided planners and decision-makers, for example, with substantive data regarding hospital admission rates and/or regional mortality figures, thus allowing them to interpret the changing health needs of a selected urban area or the overall provision of selected facilities. Many of these studies have occurred within the 'welfare' concept of geography, with geographers as social scientists becoming increasingly aware of the potential for the inequitable allocation of resources be it health, recreation or employment opportunities.

The majority of these studies have, however, concentrated upon assessing the extent to which distribution patterns deviate from the spatially optimal (that is the equal and identical provision of services across similar size populations and/or areas). This work has been completed for general public services by, amongst others, Massam (1975, 1980), who concluded that the equality of service distributions varied from service to service and from location to location, and for health services by numerous authors including Gould and Leinbach (1966) and Curtis (1982), both of whom found disparities in the provision of service facilities at differing spatial levels.

The concern of these studies with essentially the mechanics of the supply/demand system, in many ways weakened the level of explanation they were able to generate, since the complex issues of varying needs and different service aspirations were largely not considered (Phillips, 1981). Recent attempts have been made, however, to incorporate behavioural variables within the research in an attempt to assess the characteristics of both consumers and suppliers alike by assessing the potential affects of changes in the former and the latter (Haynes and Bentham, 1979). These developments are still currently in their

infancy but progress is being made. Currently, however, the various measures of availability of health care, as discussed by geographers can be classified on the basis of two main characteristics.

i. Different levels of spatial aggregation and

ii. The relationships of supply and demand.

i) Different levels of spatial aggregation

Examples of studies at varying spatial levels range from studies such as Roos et al. (1976), considering population to physician ratios in the Canadian provinces to Barnett (1978) and Stimson (1981) who applied availability measures within the urban areas of Auckland and Adelaide respectively. The conclusions drawn from such studies have been both varied and diverse, although generally levels of inequality have been noted and described between different regions, cities and within urban areas themselves. For, example, whilst Roos et al (1976) found spatial variations in equality at both provincial and inter-provincial levels, Stimson (1981) and Barnett (1978) found similar unequal allocations at the individual city level of inquiry.

ii) The relationship between supply and demand

With regard to supply and demand geographers have attempted to measure availability in terms of a balance between the demand for services on the one hand and the facilities for its supply on the other. There have been, however, considerable difficulties encountered in quantifying and analysing such variables (Joseph and Phillips, 1984). In many cases crude population numbers were used as a surrogate for demand (or more correctly potential demand) due to the difficulties of defining 'need' within the health care context (Bradshaw, 1972). The general conclusions suggest an imbalance between supply and demand, with often areas of high demand receiving a relatively lower level of service or facility than areas of lower demand yet higher prestige status (Morris, 1976; Stimson, 1981).

Strong evidence has recently emerged, however, suggesting the importance of other variables such as socio-economic factors, ethnicity and environmental differences in determining health and ill-health, and therefore the potential demand for care (Fiedler, 1981). For example, both Guzick, 1978 and Heenan 1980 produced evidence for the relationships between potential demand and age. Indicating that populations with an above average proportion of the very young and the very old would generate above-average demands for health care.

In summation it can be said that geographical contributions to questions of health service availability have deepened over time. While original studies were content to measure simple deviations away from large-scale spatially optimal solutions with the use of general population service ratios more recent studies have attempted to incorporate both varied levels of spatial analysis and more refined measures of supply and demand (Feidler 1981). Emphasis is still required, however, on better defining needs and supply variables in order to further understand the interrelationships and allow for more complete explorations of the interactions that are being studied.

Accessibility of health care

Similarly to studies of availability, access to health care has been one of the main areas of service use that has received particular attention from geographers. Inequality in geographical access to medical care is, after all, almost inevitable by virtue of the discrete location of facilities and, therefore, a wealth of studies have been undertaken in this area. These studies initiated with models of distance-decay relationships, have become more refined and sophisticated leading to greater substantive levels of explanation. Within the research two main groups of factors have now emerged that are recognised as influencing accessibility. The two groups of factors are:

1. Geographic Factors
2. Socio-economic factors

The geographic factors refer essentially to distance and travel times whilst socio-economic

factors attempt to incorporate a more behavioural approach to the study of accessibility in order to produce greater levels of explanation.

Geographic Factors

Within questions of accessibility for geographers the key, and originating theme, concerned the concept of distance. Generally the first studies pertaining to the impact of geographical factors on recipient health care behaviour were directly related, and analogous to, studies regarding consumer behaviour in general with simple gravity models being applied in an attempt to measure the influence of distance itself upon accessibility and service use. The earliest referenced application of distance in health care research appears to be that carried out by Lively and Beck (1927) who concluded that the utilization of physician services decreased with increasing distance of place of residence from the location of the physician.

The findings of this initial study have been consistent in many ways with the overall conclusions reached in the ensuing research. It can be generally concluded that most of the past accessibility studies have confirmed the existance of distance-decay relationships in the use of all aspects of health care, particularly physicians and hospitals, suggesting an increase in difficulties in reaching health care as distance to travel increases.

Examples of studies incorporating this distance-decay component include Ingram et al. (1978), who showed the effects of increased distance on the use of emergency room facilities; Parkin (1979), who considered distance and propensity to consult and regularly attend physician clinics; Walmsley (1978), who studied attendance figures at a rural hospital in New South Wales and concluded that the likelihood of attendance decreased as distance to travel increased; and Jolly and King (1966) who examined the effect of distance on patients attending aid posts, dispensaries and hospitals in Uganda concluding that there was a sharp decline in the average number of attendances as distance to travel increased. Geographers have also suggested the importance of transportation networks and methods of transport as being key influences upon the journey to health care (Joseph, 1981; Knox,

1978). The availability of public transport routes has also been considered with the results suggesting that those dependent upon public transport face greater difficulties in reaching health care than those whose transport is provided (Shannon et al, 1969; Adrian, 1983). Recent studies have also considered the design of transportation systems themselves in an attempt to further interpret accessibility (Rowles, 1978). However, studies of methods of transport has seemingly been hampered by both the diverse methods available and the varying resources of individuals and groups dependent upon such services (Joseph and Phillips, 1984).

While these studies have provided useful findings few major explantions regarding the varying influence accessibility across different populations and/or locations have resulted since much of this previous research on accessibility has been somewhat limited by its own narrow technical character and its impersonal concern with average behaviour. Numerous studies have recently emerged, however, which have attempted to incorporate further variables into the study in an order to better explain accessibility patterns resulting from the diversity of cultural, social and psychological aspects of the different populations studied. These recently incorporated variables have included both socio-economic and cultural factors.

ii) socio-economic and cultural factors

Building upon the findings of the early distance-decay studies geographers have recently attempted to incorporate socio-economic and cultural variables within their explanations of health care accessibility. As a result of these efforts differential service accessibility has become an important focus for social geographical research in general (Thomas, 1976; Herbert and Thomas, 1982; Knot, 1982).

Socio-economic factors identified by geographers as influencing the geographic accessibility of health care have included the following:

a) Social Class. Although included in various studies inherent problems still exist in establishing the relative effects of social class as a variable because it is intricately

connected with occupation, income, status and even education. The key variables identified by past studies of journeys to health care for lower-class groups appear to be a combination of income and/or a lack of knowledge regarding facilities/services generally. Studies within both the United States and Britain have pointed to the influences of these factors. (McKinlay, 1970; Alderson, 1970; Waddington, 1977). As yet, however, there is still relatively little work which unambiguously 'explains' accessibility and journeys to health care in terms of social class.

b) Ethnicity. The cultural or ethnic background of indivudals or groups has also been suggested as a cause of differential utilization in services and problems of accessibility or journeys to health care. Within the American context, particularly, urban minority groups have been shown to face difficulties in journeying to health care. (Morrill et al., 1970; Friedson, 1970; Hines; 1972). Morrill et al 1970 indicated that blacks living in the downtown areas faced financial and social barriers when attempting to travel into white suburbs to receive treatment. Overall levels of explanation are still somewhat distorted, however, since consideration of this variable is also bound in nature to others such as, income, social status, and increased geographical distance from facilities.

c) Age A Third variable identified as affecting the ability to travel to health care has been that of age - which provides an introduction to the work of geographers on the elderly and health care. Whilst overall few studies have been carried out particularly on the elderly by geographers findings from related studies have proved applicable. For example, Knot 1978 concluded that in terms of access to the physician's surgery the personal mobility of the patients was a major influencing variable, with the elderly generally experiencing lower levels of such mobility than the patients in general. An overall review of the substantive contributions from various studies indicates that similar conclusions have been reached in varying locations. For example, LeFroy and Page (1972), in Australia, Shaw (1975) and Rowles (1978) in the United Kingdom, and Golant (1979) in the United States all concluded that the elderly living at home with decreased levels of mobility and

reduced social contacts faced difficulties in travelling to services in general and health services in particular. These findings represent an important breakthrough within the geographical literature and now further empirical studies are required to build upon these developments.

In conclusion it can be said that the geographical studies on journeys to services (that is service accessibility) have evolved considerably over the last couple of decades. From the starting point of simple distance-decay models geographers are now attempting to explain accessibility with reference to more individual/group variables in an attempt to tackle this very complex question.

A Conclusion on Geographers the Elderly and Health Care

Geographers have made considerable contributions to the study of health care in general as a result of their growing interest in services over the last couple of decades. The geographical interest has focused particularly upon the concepts of service availability and accessibility, both logical extensions of substantive geographic research traditions. Both the studies of availability and accessibility have become more refined, as a result of increased replication and necessary extension, and have moved away from the study of general rational patterns. The availability studies, in summary, have revealed the vast complexity and heterogeneity of the study of health care both at varied levels of spatial aggregation and with different measures of supply and demand. The accessibility studies have, perhaps, indicated more homogeneity with distance being isolated as an important variable influencing access to services. Even within this context, however, distance, as a lone indicator, is being replaced by studies attempting to incorporate socio-economic variables such as social class and age in an effort to consider distance from a less absolute perspective. Afterall, different individuals and/or groups within the city have different mobility skills and capabilities and these must by necessity have an influence upon journeys to health care. As a result of these developments geographers are now becoming more able to look at specific urban groups and to examine their relationships with the health care

services. An example of one of these groups is the elderly, with geographers now starting to develop an interest in this growing section of the population.

D. Research Objective

The findings drawn from the literature have suggested the importance of problems of availability and accessibility concerning health care services for elderly groups, in particular, from the gerontological perspective, and various urban minority groups, in general, from the geographical perspective. The objective of this thesis is to test two main hypotheses, drawn from the literature findings, within Edmonton for a selected urban elderly population. While Edmonton does not have an overly large elderly population,(it currently approximately 36,000), problems of health care for the elderly have been noted (P.S.C.A.C., 1983, Stephens, 1978; Anholt, 1975). It therefore represents a suitable study area to test the findings and conclusions produced within the literature.

E. Thesis Hypotheses

The two main thesis hypotheses are both drawn from, and formulated in response to, the results and conclusions produced within the previously reviewed geographical and gerontological literature. They represent an attempt to combine the previous variables discussed within both lines of inquiry in order to further explain the problems at hand and to see the relative influence of the respective indicators within the context of a selected urban elderly population.

First hypothesis

The gerontological literature, as previously reviewed, indicates the importance of the internal factors of age, functional capacity and social isolation, explaining the difficulties the elderly experience in reaching health care (Kart, 1981; Law and Chalmers, 1976; and Battistella, 1971).

The geographical literature while emphasizing initially the impact of distance and method of transport in reaching health care is now recognizing the influence of further variables, for example, social class, ethnicity and age ,as mentioned above, with geographers now including such factors within their studies. Given the more detailed findings of the gerontological literature, however, the first hypothesis with reference to the elderly is:

> That problems of accessibility to primary health care for a selected urban elderly population are due more to the socio-physical variables of age, functional capacity and social isolation than to the geographical factors of distance, as measured by travel time and method of transport .

The present study therefore represents an attempt to combine the use of both sets of variables and to determine the relative importence of each regarding difficulties in reaching health care for a selected elderly population within Edmonton.

Accessibility within the above context refers specifically to geographic accessibility - that is a concern with describing the presence or non-presence of difficulties in the actual journey to health care itself. This concept of accessibility, therefore, does not extend to cover non-physical aspects of the journey such as knowledge or awareness of the services available, feasibility of use or relevance of available treatment.

Primary health care refers to simply doctors and/or hospitals (Skelton, 1977) thereby not including the range of secondary health services also currently operative.

Second Hypothesis:

Both the geographical and gerontological literature have pointed to problems of service availability in the supply and demand equation. While the geographical studies have considered health services generally and noted inequalities and inappropriate distributions the gerontological literature has produced similar more specific conclusions related to the elderly as an urban group. Because of the more specific nature of the gerontological studies the hypothesis will be drawn from primarily this area of the research. On the basis of these findings it is expected that a review of the evidence for Edmonton will support the hypothesis:

That the current specialised geriatric health care services within Edmonton are inappropriate given the numbers of elderly (65 years of age or over) and that for the selected urban population the delivery of the current primary medical services provides treatment that decreases in quality as age, functional incapacity and social isolation increase.

In this hypothesis specialised geriatric health care services refers firstly to a consideration of the number of geriatric day-care hospital places available for the city as a whole, and secondly, to the number of specialist geriatricians currently working within the city. Past studies have shown that these two key areas of geriatric medicine have been overlooked generally in the provision of health care services (Skelton, 1977) Harris, 1975; Hammerman, 1974; and Schwebel et al., 1973). Within the Edmonton context calls have also been made for the extension of these services in an attempt to improve the availability of geriatric care (Provincial Senior Citizens Advisory Council, 1982; Alberta Community Health and Nursing Report, 1979; Social Services Planning Report, 1977).

The "delivery of current primary medical services" to the selected elderly population will consider four aspects of weakness raised generally within the gerontological literature and discussed specifically here(P.9,10). Firstly, the question of physician understanding of patient problems. Past studies have suggested (Kart, 1981; Skelton, 1977; and Szasz, 1974) that physicians have failed to correctly and sympathetically diagnose illnesses and health problems within the elderly. Such discussions indicate, therefore, in delivery weakness in the health services. Secondly, the elderly further require both a continuity of service (Kart, 1981; Davis and Reynolds, 1975) and a regularity of visits for successful medical treatments (Skelton, 1977; Andrews et al., 1971). Past studies have suggested, however, that this continuity of care is not always forthcoming (Hammerman, 1974), with the indication that the level of service declines as the elderly become increasingly frail (Kart, 1981). Thirdly, home visits are seen by the qualified medical staff as essential requirements in the care of the elderly (Skelton, 1977; Anholt, 1975; and Stanton and Exton-Smith, 1970). Evidence suggests, however, that these home visits are still not being carried out (Skelton, 1977; Anholt 1975). This conclusion will be investigated from the standpoint of the selected urban elderly population. Finally, the

preference of doctors to treat younger patients has been noted in previous studies (Hess and Markson, 1980) resulting in the elderly facing larger waiting room delays when visiting a physician. This conclusion will be tested for the selected urban population considering the key variables (age, functional capacity and social isolation) causing such delays.

II. CHARACTERISTICS OF THE ELDERLY POPULATION

A. The Elderly in Canada

The decision by the United Nations to convene a world assembly on aging, from July 26 to August 6 1982, presented Canada and all the other attending nations with a challenge to review their current policies regarding their older citizens and an incentive to consider the kinds of future developments required to meet the needs and aspirations of an aging population. The Canadian government as a prelude to the conference issued a report on aging, and declared June 1982 as 'senior citizens month' in Canada.

The preparation of this report was a cooperative effort between the Federal, Provincial and Territorial governments. Central to its final publication was the Federal-Provincial/Territorial committee for the world Assembly on Aging which carried out as its mandate the task of producing a report which would be in accord with the perspectives of the governments concerned. The recommendations put forward were considerable with both a Federal and provincial/ territorial emphasis maintained. Many of the problems raised, however, still remain largely unresolved and many of the issues discussed are unsettled. Canada, and the western world in general, will face the important problems and costs of an aging population in the near future.

Population aging

A substantial increase in the population aged 65 and over is, according to Statistics Canada, now recognised as one of Canada's major social problems. Perhaps appropriately then this trend, and its implications, are now attracting the increasing attention of both professionals and laymen alike. For example, the Canadian Medical Association recently set up a task force and announced that, particular emphasis would be placed on the special needs created by an aging population.

The increasing needs for, and costs of health care are, of course, but one of the many aspects associated with population aging. A sample of other crucial issues might include income security, retirement age, housing, transportation, and social welfare in general. Such issues are of primary concern to planners in both government (at all levels) and private organizations. It is also an important concern for decision-making in the business sector covering such diverse areas as housing, travel, investment and even food. One final important implication of an aging population is the political influence that will be carried by a large and ever increasing group of aged voters.

The overall statistics for population aging in Canada when reviewed briefly suggest the following. It is predicted that by 1985 10 per cent of Canadians will be sixty-five or over. This compares to the 10.9 per cent figure for the more developed countries generally and 4 per cent in the less developed. By the year 2000 these figures are expected to be 11.7 per cent for Canada, 12.8 per cent for the more developed countries and 4.6 per cent for the less developed (Canadian Governmental report on Aging, 1982).

Canada's present trend of population aging is a result of three main factors.

1. In Canada, birth rates have been declining over most of this century (with the exception of the baby-boom years of 1946-66). The birth rate at the beginning of this century was 30 per 1000 population compared with 21/1000 in 1961/71 and 16/1000 in 1971/81. This has led to a general aging of the population.
2. The second cause stems from immigration trends. In the first few decades of this century immigration waves to Canada were relatively large and consisted of a high proportion of young adults. These waves, therefore, effectively reduced the proportion of the elderly in the population. In recent years, however, these immigrants have been entering the older age groups thereby expediting the process of population aging. Additionally, recent immigration waves have been relatively smaller and their age structure older. The effect of new immigrants on attenuating population aging has thus decreased considerably over the last decades, at the very time when earlier immigration is among the causes of population

aging.

3. The third cause has its roots in the long-term trend of increasing life expectancy. In Canada life expectancy has been increasing steadily since 1931. (This was the first census for which official figures were computed). The overall increase in life expectancy at birth over the period 1931 to 1981 has been twelve years for men from 59.5 to 71.5, and 17 years for women from 61.8 to 78.7.

For the Canadian provinces and territories the relative proportions of the elderly can be ranked, see Table (1). Within Canada only the Yukon and the Northwest Territories have a smaller percentage of their population 65 years and over than Alberta. Although the absolute number of older persons in Alberta is increasing the proportion is not increasing as rapidly as other provinces due to the recent in-migration of younger persons to the province as a result of the oil-boom years.

In terms of settlement characteristics, certain Canadian communities are also characterized by a high proportion of elderly. This is particularly true of the small urban centres in the Canadian Prairies. For example, urban centres with a population under 10,000 in Manitoba had 15.6% of their population aged 65 years or over, whilst similar centres in Saskatchewan had 17.6% of their population in a similar age bracket. These prairie centres probably provided homes for many of the waves of European immigrants arriving in Canada in the early decades of this century. This, coupled with the out-migration of job-seeking young people, produces the overall imbalance of seniors. Such imbalances do, however, place a considerable stress upon the available services.

The elderly and health care

From the standpoint of the health services any increase in the elderly population is a cause for concern. After all, the elderly require a disproportionate use of the available health care facilities due to the generally higher levels of failing health. For Canada as a whole, the estimated annual bed-days per person per year are 5.3 for the entire population. For those 65

TABLE 1

PERCENTAGE OF POPULATION AGED 65 YEARS AND OVER, CANADA AND THE PROVINCES, 1971 AND 1981

	% of Population 65+, 1971	1971 Rank	% of Population 65+ 1981	Rank
Newfoundland	6.1	10	7.7	9
Prince Edward Island	11.1	1	12.2	1
New Brunswick	9.2	5	10.1	6
Nova Scotia	8.6	6	10.9	4
Quebec	6.9	9	8.8	8
Ontario	8.4	7	10.1	6
Manitoba	9.7	3	11.9	3
Saskatchewan	10.2	2	12.0	2
Alberta	7.3	8	7.3	10
British Columbia	9.4	4	10.9	4
Yukon	2.8	11	3.2	11
Northwest Territories	2.2	12	2.9	12
Canada	8.1		9.7	

Source: Census of Canada, 1971 and 1981.

years and older the corresponding figure is 13.2. Annual disability days (which measure short-term disability associated with espisodes of illness or injury including bed-days, major activity-loss days, and days when activity has had to be reduced below that usually done for all or most of a day) show a similar variance. Whilst the population as a whole experiences a total of 15.7 such days per person per year, those 65 years or over record 35. Associated with these figures is the heavy utilization by seniors of both medical and hospital services generally. The Ontario Ministry of Health data shows that in 1976, 16.2 percent of the services of Ontario physicians, that is these enrolled in the Ontario Health insurance plan, were delivered to the aged who represented only 8.9% of the total population. Compared to the rest of the population the aged also heavily utilize drug services. In fact, they take over twice the prescription drugs per capita in relation to the general population (Canadian Governmental Report on Aging - 1982).

The elderly are heavily dependent on the health services provided but, as the growing number of government (Federal and provincial) and non-government reports indicate, concern still exists that the elderly are not being served according to their needs by the present health services (Canadian Governmental Report on Aging; 1982; and Health Care Costs for the Elderly in Ontario, 1976-2026, Gross and Schwenger, 1981).

Health care problems of the elderly a national perspective

The 1982 Canadian Governmental report on aging noted that, historically, the aged had rarely been consulted regarding their health care needs, and that furthermore there were few current mechanisms that allowed the elderly to have a voice in matters of importance to their welfare. With both Governmental, and even non-governmental reports, being issued and discussed without specific reference to the views and thoughts of the elderly concerned. Hence in many cases little or no substantial progress was made regarding health care problems.

The report also commented specifically on the problems of health care accessibility experienced by the elderly with a number of key contributing factors being isolated. These

included:

1. The prevalence of attitudes that reflect a systematic stereotyping of, and discrimination against, the elderly simply because they are old with those who subscribe to this concept, whether consciously or unconsciously, including health personnel, creating barriers for the aged in gaining access to the appropriate levels of care. For example, problems may well be experienced in obtaining rehabilitation services because they are not considered to be productive workers. They may also, like those of any age, find that they are treated in a depersonalized fashion if they are terminally ill.
2. A second factor due partly to attitudes and partly to a lack of information, is the difficulty experienced by some older persons in having their health problems adequately assessed by physicians, surgeons, nurses and health care personnel in general. Much remains to be done in order to focus attention on the aged in the health care and health service delivery systems. Inherent to this objective will be an improved gerontological and geriatric content in the education of health care professionals.
3. Thirdly, the aged in Canada are generally well covered by the present health care insurance plans. However, there are circumstances when extra costs can arise and pose problems for the aged with limited resources. The costs of transportation to visit doctors or treatment facilities when public transport is not available, or when other and more expensive means of transportation have to be used, may create problems. Extra-billing by physicians in certain provinces, payments for laboratory, radiological and other diagnostic health services, and the costs of special diets required in the treatment of certain conditions may also present financial difficulties for those on already limited budgets.

In many ways the fee-for-service method of payment of physicians reflects an emphasis on acute episodic care, and may not represent an incentive for physicians to provide long-term continuing care. Payment is based on units of service and in its present form it may not be appropriate for cases requiring prolonged and detailed assessment of medical, social and family issues involved in individual care.

The relationship between the elderly and the primary health care services should not, however, be regarded as all bad. As the previous statistics clearly indicate the elderly use a significantly greater amount of the available health care than all other groups in society (except those severely physically or mentally disabled). The health care services are then providing care that is both generally available and acceptable. The problem lies, therefore, not in terms of the quantity of the service provided, but more so as regards the quality and the type of care available. The elderly as a heterogeneous sub-group, ever-increasing in size, have specific health care problems that require treatment often above and beyond that presently available, for example, home visits by physicians and/or long-term care environments (Hammerman, 1974; and Skelton, 1977). Refinements to the present health care systems are therefore required to accommodate these needs (Brocklehurst, (1973); Ward, (1977).

B. The Elderly in Alberta

Population and distribution

For the 1981 census the elderly populataion of Alberta was:

YEARS	MALE	FEMALE
65-69	27,005	30,420
70+	47,245	58,725
	74,250	89,145

representing a combined elderly population of 163,395. The population for the province as a whole was 2,237,725 with the elderly population forming 7.3 per cent of the total. This proportion has decreased slightly over the last couple of decades, a reflection of the in-migration of younger age groups associated with the economic 'boom years' (see table 2) For example, in 1978, 58 per cent of the males and 53.7 per cent of the females who migrated

TABLE 2

POPULATION 65 YEARS AND OVER AND 85 YEARS AND OVER
ALBERTA, 1901 - 1981

Year	Total Population	Population 65+ No.	% of Total	Population 85+ No.	% of Total	% of 65+
1901	73,022	1,413	1.94	66	0.09	4.67
1911	374,295	6,222	1.66	185	0.05	2.97
1921	588,545	13,957	2.37	378	0.06	2.70
1931	731,605	25,693	3.55	701	0.10	2.70
1941	796,169	41,606	5.23	1,464	0.18	3.51
1951	939,501	67,283	7.16	2,421	0.26	3.60
1956	1,123,116	81,387	7.25	3,330	0.30	4.09
1961	1,331,944	93,000	6.98	4,811	0.36	5.17
1966	1,463,203	104,010	7.11	6.927	0.47	6.66
1971	1,627,875	118,750	7.29	10,270	0.63	8.65
1976	1,838,035	137,925	7.50	12,530	0.68	9.08
1981	2,237,725	163,395	7.3	14,180	0.63	8.67

Source: Census of Canada, 1971 - 1981.

to Alberta were between the ages of 15 to 29. While 94.6 per cent of the males and 90.2 per cent of the female migrants were under 44 years of age.

Similarly, the rural/urban distribution of the elderly has also been shifting over the last couple of decades. Between 1961 and 1971 there was a trend of movement away from rural areas to smaller urban centres, a trend that continued through to 1976 as well. In general, there has been a great decline in the elderly farm population from 1961 when 18.6 per cent of persons aged 65 years or over lived on farms, to 1976 when only 6.9 per cent of elderly persons did so. In contrast to the total Alberta poplation the elderly are living in greater proportions in the small urban and rural non-farm areas of the province. For example, whilst in 1976 over half (53.6 per cent) of the total Albertan population lived in the two major centres of Edmonton and Calgary, less than half (46.3 per cent) of the elderly did. The data for 1981 indicates, however, a closing of the gap for while approximately forty-six per cent of the elderly lived in the two major centres, the figures for the total poplation as a whole fell to 50 percent.

Using the health service regions as spatial units, the highest concentrations of older people are found in the southern and East central areas of the province, for example, Lethbridge and Vegreville. The lowest concentrations were found in the northern areas, for example the High level area and Fort McMurray (Table 3).

Socio-economic characteristics of the elderly

Comprehensive information on the income and assets of older persons in Alberta is not available. Income information is only available for those persons who qualify for the income supplement programs from the Federal and Provincial governments. The Government of Canada provides Old Age Security Benefits (O.A.S.) to all persons who meet the conditions of residency and have reached the age of 65 years. These programs are designed to ensure a degree of economic independence for all senior citizens. A Guaranteed Income Supplement (G.I.S.) is also paid to those on lower incomes in order to raise their level of income. For senior citizens in Alberta, the Government of the province implemented in 1975 the Alberta Assured Income

TABLE 3

DISTRIBUTION OF POPULATION 65 YEARS AND OVER BY HEALTH UNIT, ALBERTA, 1971 AND 1976

Health Unit	1971 Total Population	1971 No. 65+	1971 %65+	1976 Total Population	1976 No. 65+	1976 %65+
Alberta East Central	47,870	5,345	11.17	48,505	5,745	11.84
Athabasca	23,235	1,860	8.01	24,550	1,970	8.02
Banff	3,205	280	8.74	3,840	265	6.90
Barons-Eureka	26,285	2,065	7.86	28,095	2,270	8.08
Big Country	12,975	1,175	9.06	12,110	1,200	9.91
Calgary	403,319	25,369	6.29	469,895	30,425	6.47
Chief Mountain	12,895	1,080	8.38	12,900	1,310	10.16
Chinook	25,015	2,615	10.45	25,430	2,750	10.81
County of Warner	8,795	755	8.58	8,080	825	10.21
Drumheller	26,035	2,645	10.16	29,235	2,940	10.06
Edmonton	438,152	27,341	6.24	461,885	32,940	7.13
Edson	29,025	1,360	4.69	30,855	1,625	5.27
Foothills	20,425	2,150	10.53	25,825	2,535	9.81
Grande Praire	40,030	2,780	6.94	43,995	2,980	6.77
High Level-Ft. Vermilion	8,155	255	8.18	9,585	290	3.03
Jasper	2,950	145	1.92	3,590	170	4.74
Leduc-Strathcona	49,415	2,545	6.15	76,345	3,130	4.10
Lethbridge	41,205	4,420	10.73	46,755	5,385	11.52
Fort McMurray	13,150	455	3.37	17,540	275	1.57
Medicine Hate	49,875	4,765	8.55	65,605	5,470	8.34
Minburn-Vermilion	30,430	3,075	10.11	31,090	3,560	11.45
Mount View	35,900	2,520	7.02	42,215	3,115	7.38
Northeastern Alberta	35,010	2,760	7.88	38,995	3,025	7.76
Peace River	36,355	2,615	7.19	35,100	2,780	7.92
Red Deer	71,495	5,940	8.31	80,735	6,915	8.57
Stony Plain-Lac Ste Anne	31,030	2,305	7.03	43,065	2,600	6.04
Sturgeon	51.680	3,650	7.06	69,765	4,400	6.31
Vegreville	25,340	3,345	18.20	25,365	3,840	15.14
Wetoka	29,585	3,055	10.33	30,640	3,515	11.47

Source: Census of Canada, 1971 and 1976, published and unpublished data.

Plan (A.A.I.P.) for those receiving the G.I.S. in order to further protect those in the lower income brackets.

In total, 145,709 Alberta seniors received O.A.S. in December 1978, Of those, 79,514 were also eligible for G.I.S. and A.A.I.P. This meant that 54.6 per cent of the O.A.S. pensioners actually required income support, one crude indication of generally low levels of income amongst most of the elderly. Full supplements were given to 17.9 per cent of the seniors on O.A.S., which meant that they were living only on the O.A.S., G.I.S. and A.A.I.P. Partial G.I.S. and A.A.I.P.s were received by 36.7 per cent of the elderly which indicated that they had other sources of income on which to live.

Unfortunatley, little is known about the income of the 45.4 per cent of the elderly persons who received only the O.A.S., except that they received income from other sources. In 1978, the Federal Government spent $251 million on O.A.S. in Alberta, and $73 million on G.I.S. (excluding June 1978). Added to this is the additional $30 million spent by the Alberta Government itself on its own A.A.I.P. programmes (excluding January 1978). Overall, the Federal and Provincial governments provide considerable funds in Alberta to support the elderly population.

The elderly and health care

As at the national level health economics statistics show that elderly persons utilize a larger number of medical services per capita than any other age group. In fact, in Alberta the greatest numbers of services were used by persons 75 years or older. In 1979 these seniors used almost twice as many services per 1000 persons as the age group 45-64 (33,443 to 18,456) and nearly 2 1/2 times the number of services as persons 15-44 (33,916), a crude indication of their reliance upon the health care services. The cost of medical services for seniors, for the year ending March 31·1979, was $336,766 per 1000 elderly population. A cost greater than for any other age group. The data also indicates that the elderly utilized most medical services, except obstetrical services. Surgical assists and minor surgery were also infrequent, but there was a

high number of hospital visits, office visits and pathology services. Generally, persons 75 years or older required twice as many hospital visits as those 65-74.

This massive health service usage by the elderly takes place against the backcloth of the Alberta Health care insurance plan (A.H.C.I.P.), a provincial insurance plan covering the costs of medical and hospital services. The elderly, their spouses and dependents receive this insurance free of charge and are not required to pay the usual monthly premiums for such insurance use. The plan runs from July 1 to June 30 of the following year and essentially covers the following areas of health care.

1. The medical services of a physician or osteopath paid under an approved schedule of fees.
2. Specified oral surgery procedures by a dental surgeon.
3. Chiropractic services with a set spending unit.
4. Foot care and podiatric appliances also within a set spending unit.
5. Medical examinations required for Driver's licences for seniors 69 years and over.
6. Eye examinations and the prescription and fitting of glasses.
7. Physiotherapy services within a set spending limit

Supplemental to this main plan is the Alberta Blue Cross Plan. A plan covering additional health care benefits which allows senior citizens, their spouses and dependents to receive stipulated medical care without the payment of premiums. Under this plan seniors are protected from the additional hospital costs of a semi-private a private room in an auxiliary hospital. They are required to pay only 20 per cent of the cost of prescription drugs, medication and insulin supplied by a licensed pharmacist or on a doctor's prescription. The plan also covers the costs of the professional ambulance services available to transport seniors to and from active treatment hospitals and further reimburses seniors who have incurred limited costs for registered clinical psychological services, home care nursing, naturopathic services, the supply of certain appliances (for example, artificial limbs) and some dental care work.

Finally, an 'extended health benefits programme' is also available which helps seniors pay for eye glasses, dental care and dentures, hearing aids, surgical supplies and appliances and

medical equipment.

These three insurance plans combine to provide a comprehensive overall medical insurance plan for the seniors in Alberta, the problem of extra-billing aside. However, such insurance schemes only form one side of the health care system in that they only come into effect when health care is actually sought and/or used. The other side of the system involves the actual use of, and the attempts to gain use of, the health care services themselves. The usage figures quoted previously clearly indicate the reliance of the elderly upon the available health care services. This suggests that any under provision or even unsuitable provision of services may result in the non-satisfaction of any needs that might arise. For the City of Edmonton also the provision of the health care services is of paramount importance in providing adequate health care for almost all the seniors living in the city.

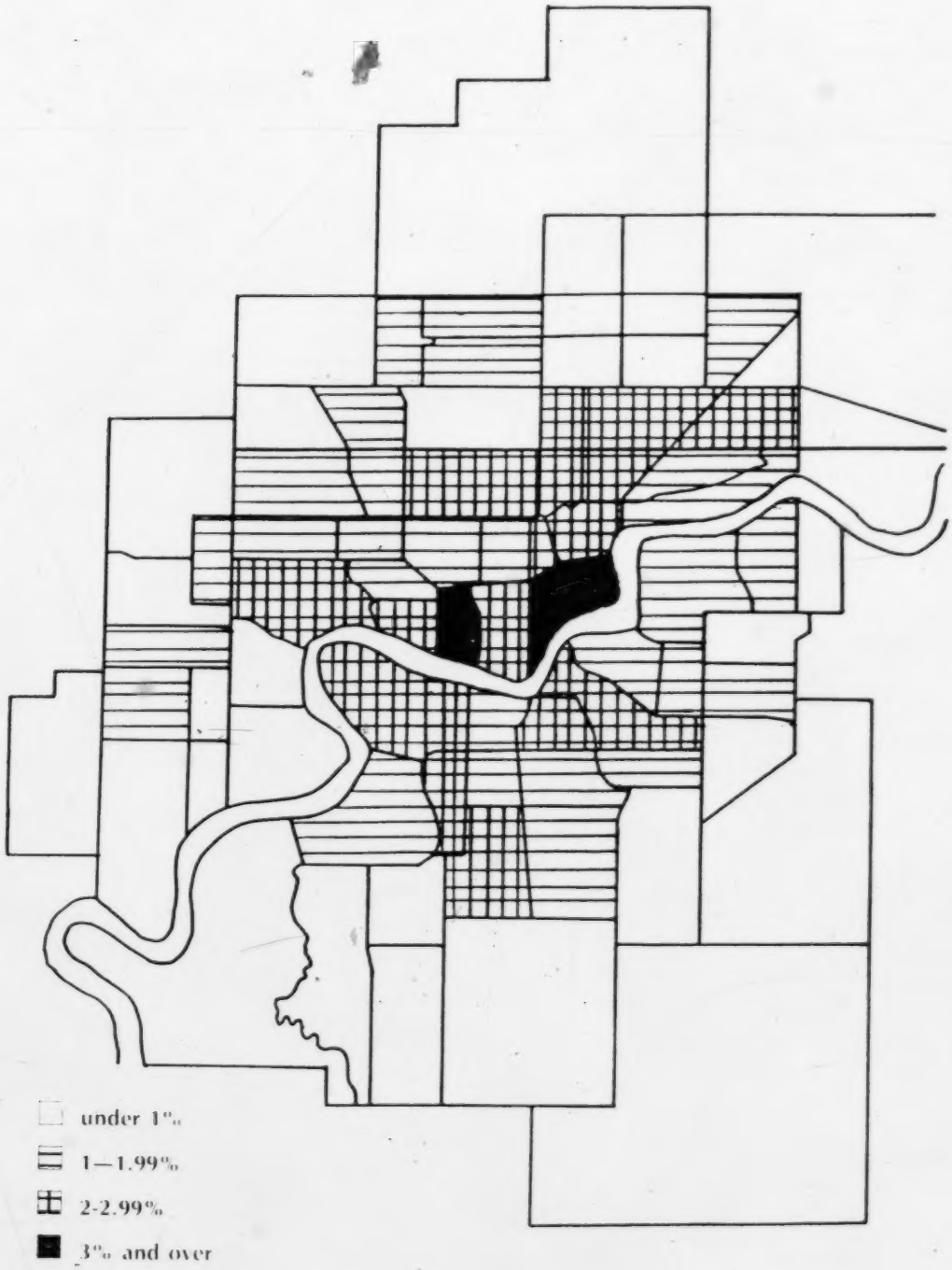
C. The Elderly in Edmonton

Population and distribution

At the time of 1981 census the elderly population of Edmonton was 35,933. Out of a total population for the city of 521,205 this represented 7.0 per cent of the populous, (The equivalent figure for Calgary was 6.1 per cent). The elderly population over 75 years was 13,223 in total or 2.5 per cent. In terms of their residential locations within the city the elderly were mainly concentrated in and around the dowtown areas, although a general spreading out had occurred from these areas over the past decade. As Figure (1) shows, the elderly in 1971 were essentially concentrated in the older areas of the city adjacent to the Saskatchewan river, with a prominent northward extension west of 97th street as far as 126th avenue, and a southerly projection along 109th street as far south as 51st avenue. The two highest concentrations of elderly, by census tract classification, were in census tracts number 34, bounded by the river, 97th street and 105th avenue; and number 32 centred between 109th and 116th street and 105th avenue and the river. The latter tract containing a number of senior

FIGURE 1

PROPORTION OF TOTAL ELDERLY (65+) BY CENSUS TRACT 1971



citizen lodging homes.

A similar map for 1981, allowing for the slight alteration is census tract boundaries, shows a somewhat altered distribution (Figure 2). Whilst the elderly can still be seen to be concentrated in and around the downtown area, the strength of this concentration has been diluted with an outward spread into the neighbouring tracts. The former largest concentrations in census tracts 34 and 32 have weakened, and the highest proportion of elderly is now found on the western fringes of the downtown area in tracts 29 and 30.

Considering the elderly population of 70 years and above (see Figure 3) once again the prominence of census tract 34 is noticeable, so too is that of the western fringe of the downtown area. However, the southerly census tract 12.01 also emerges as an area of important concentration as does census tract 54 adjacent to the municipal airport both areas of recent senior citizen housing projects. The largest concentration of those 70 years and over is found in census tract 52.02 situated in the north-western part of the city and bounded by 111th and 118th avenues, 142nd street and the St. Albert trail. These respective movements by seniors out of the downtown areas are a direct result of the building of several new senior high rises during the early to mid-1970's, whilst redevelopments have occurred in the downtown areas. Two such prominent developments are the Kiwanas Place project and that at Meadowcroft. In general, then, the past decade has seen a gradual migration of seniors out of the downtown area into the surrounding fringe areas.

Senior organizations and societies

Seniors within Edmonton are served by a whole plethora of organizations and community groups all aiming to provide some service or facility or both. The resulting situation is often one of confusion as different organizations duplicate similar services whilst others go seemingly neglected.

At present 6 main bodies, or organizations, are working within Edmonton, and Edmonton as part of Alberta, essentially concerned with researching into the aged and tackling

FIGURE 2

PROPORTION OF TOTAL ELDERLY (65+) BY CENSUS TRACT 1981

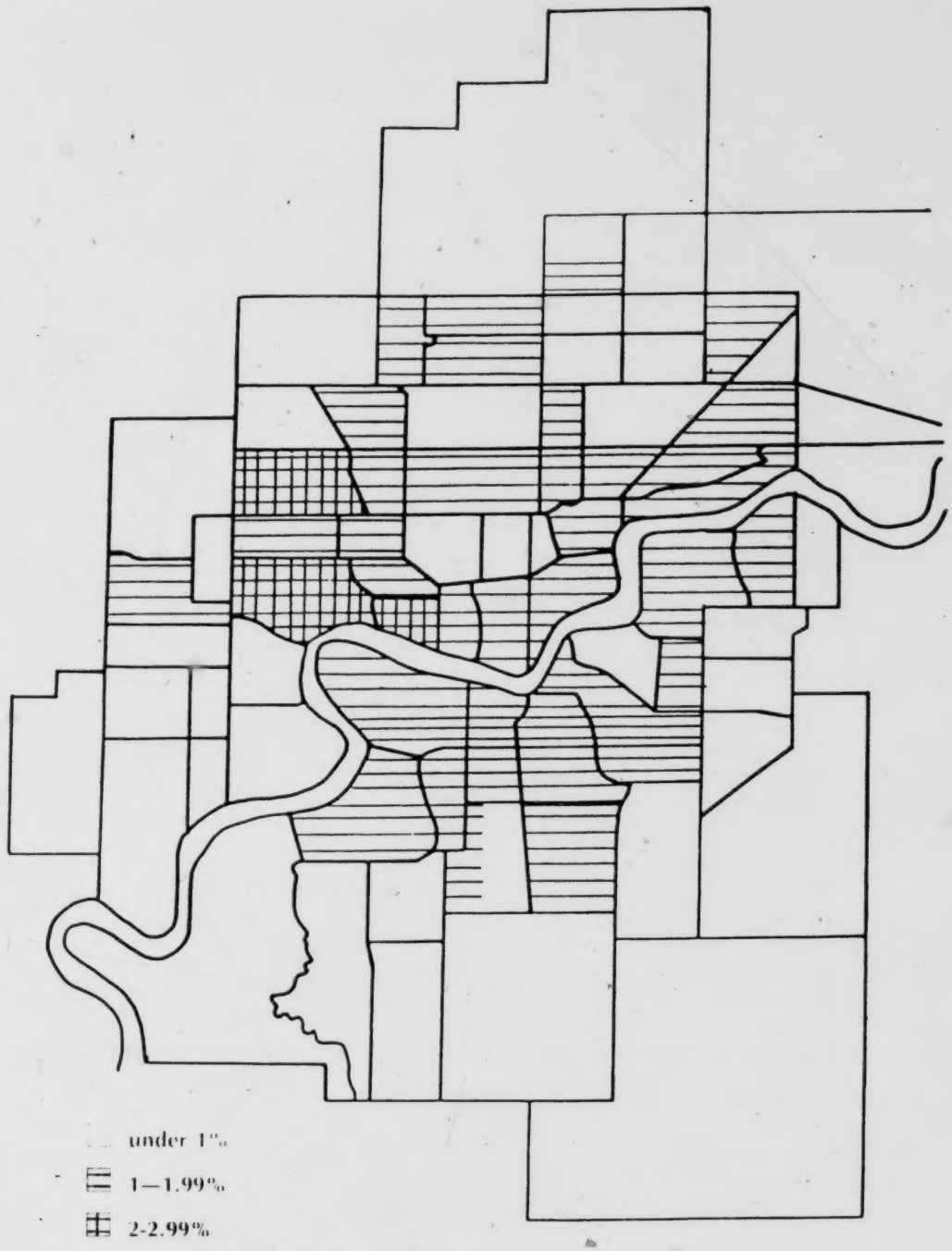
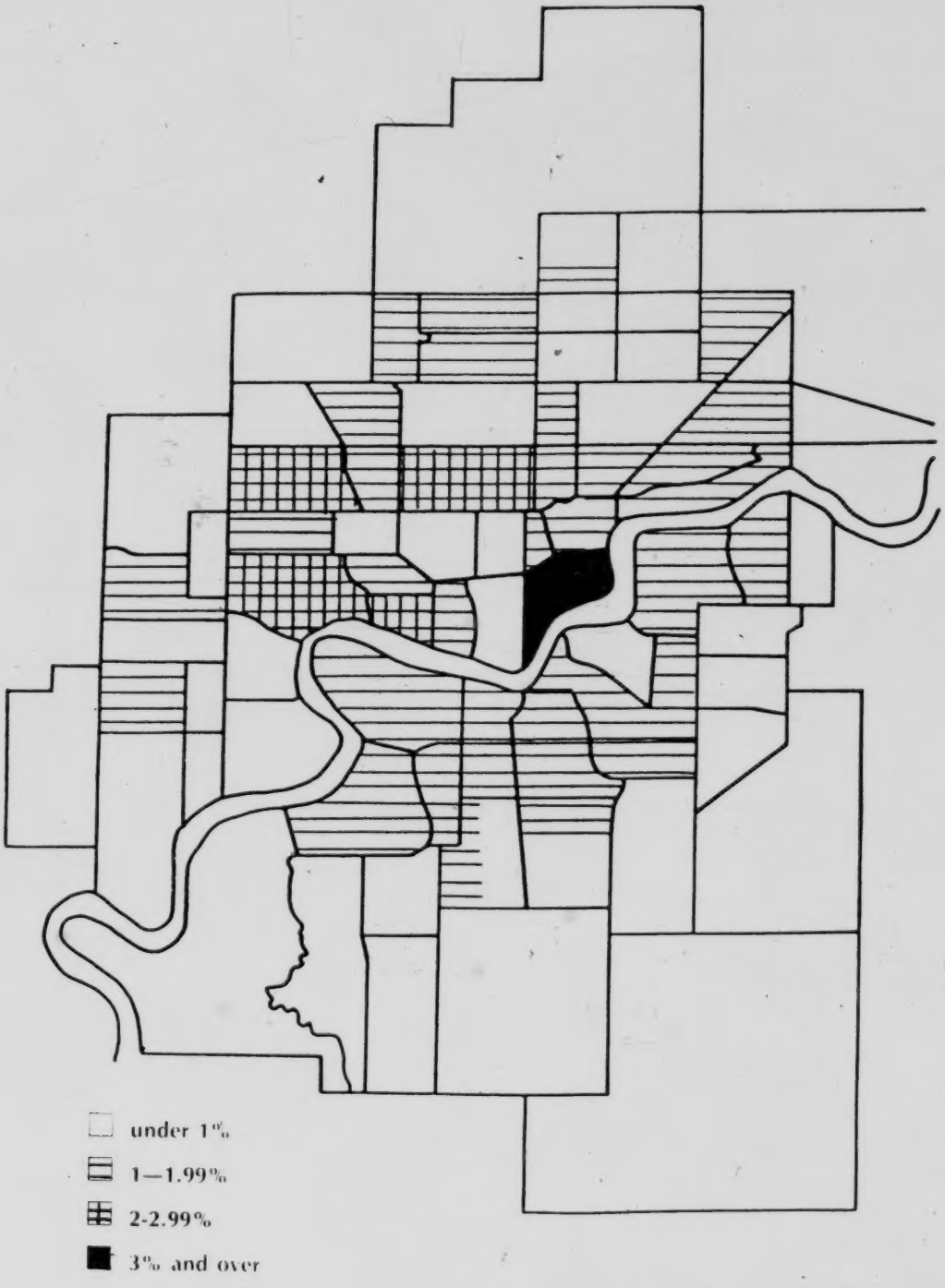


FIGURE 3

PROPORTION OF TOTAL ELDERLY (70+) BY CENSUS TRACT 1981



any problems or difficulties that they may face. The 6 organizations currently active are:

1. The Provincial Senior Citizens Advisory Council
2. The Senior Citizens Bureau
3. The Alberta Council on Aging
4. The Alberta Association of Gerontology
5. The Centre for Gerontology, University of Alberta
6. The Geriatric Assessment and Rehabilitation Hospital

The Provincial Senior Citizens Advisory Council

The Provincial senior citizens Advisory Council (PSCAC) was established in Alberta in 1976. The council was appointed by the Minister for Social Services and Community Health to advise the Government on policies and programs for senior citizens and to make specific recommendations on priorities and the co-ordination of programmes. The terms of reference of the council are as follows.

1. To review the views and concerns of older persons in Alberta.
2. To foster positive attitudes towards aging and a better understanding of old people.
3. To provide advice to the government on specific policies and programmes for senior citizens and to advise in regard to priorities and the coordination of programmes.
4. To make any other observations to the government deemed to be relevant to the development of programmes for older people.
5. To review and advise on educational and special project grants for programmes for senior citizens subject to the availability of funds.
6. To carry out other responsibilities at the request of the government from time to time.

The council itself meets not less than four times a year and is required to submit an annual report to the Social Serevices Minister responsible for the council. Its membership is headed by the chairman, a direct appointment by the government, with one member from each of the following organizations selected from nominations put forward by them: the Alberta Hospital Association; the Alberta Medical Association; and on an alternating basis

the University of Calgary, the University of Alberta and the University of Lethbridge. The council is completed by one member of the legislature and ten members representing the community. As part of the statement of philosophy of the council three main themes are stressed. These themes are intended to form the foundation of government policy, services and their subsequent delivery.

1. The provision of maximum independence and choice.
2. The encouragement of continued participation in family and community life.
3. The active involvement of senior citizens in the planning, development and assessment of services.

The Senior Citizens Bureau

The Senior Citizens Bureau was established in December 1975 and is part of the Planning Secretariat of the Department of Social Services and Community Health. Its objective is to provide information regarding the services and resources available to seniors from the Federal and Provincial Governments, municipalities and voluntary organizations. The Bureau also provides resource information and advice to government and community groups, and encourages coordination in the planning and delivery of services to senior citizens.

The Alberta Council on Aging

The Alberta Council on Aging was established in 1966 and has since 1975 operated under a grant from the Department of Social Services and Community Health. It is a voluntary organization of individuals, groups and agencies concerned with the process of aging, and is widely recognized as the 'representative voice of senior citizens in Alberta' (Provincial Senior Citizens Advisory Council Annual Report 1983).

The council seeks to:

i. increase the understanding of the impact of aging on both individuals and society and
ii. to work for individual and societal change in order to enhance the active participation

of the elderly in society.

The council sets out to meet these objectives by adhering to the following polices.

1. Defining the needs of the aged and the aging and bringing these to the attention of government or voluntary agencies for action.
2. Identifying and encouraging research and the systematic compilation of information affecting aging.
3. Encouraging and developing public discussion on all problems affecting the aged.
4. Mobilizing leadership, particularly among the aged to help solve the problems of aging
5. Monitoring and reviewing government policy and legislation in order to inform them of the impact of such policies and programs on the aging.
6. Fostering liason and cooperation between agencies concerned with aging directly or indirectly.

The Alberta Association of Gerontology

The Association aims to act in a coordinating role as far as research is concerned. To this end the association has recently established a sub-committee on research and plans to promote studies on aging and compile on annotated bibliography of Alberta-based gerontological research completed to date.

Centre for Gerontology, University of Alberta

The president's committee on gerontology has been disbanded and the centre for gerontology formally established. The centre's mandate includes coordinating campus activities related to gerontology and encouraging and facilitating research activities. The centre gives no financial support to researchers.

The Geriatric Assessment and Rehabilitation Hospital (Youville Memorial Hospital)

Attached to the Edmonton General Hospital and officially opened in April 1982, the hospital provides comprehensive medical and psychiatric services for the elderly. Unfortunately any funding that it requires must be found with the help of outside

agencies.

These six organizations represent the main bodies currently concerned with research into the aged and aging. They could conceiveably work cooperatively to provide for research activities. However, as the P.S.C.A.C. annual report for 1983 pointed out, as yet, there is no formal network among them. This lack of a coordination of research activities helps to contribute to the very competitive environment among the various bodies concerned for the scarce financial resources available (The exception to this is the Senior Citizens Bureau, which is a provincial government office and does not compete for 'grants-in-aid' for research). Further considerations regarding coordination include the current inability to prevent duplication in research activities, the difficulty in determining actual need for research activities and the lack of a vehicle to promote the use of research results. In short, without some form of coordination between the bodies, research on aging in Edmonton and Alberta will continue to have a limited impact.

From the standpoint of the actual service facilities available to seniors in Edmonton a large range of centres currently operate. These offer a wide range of selected activities and cater for most areas of the city.

Senior citizen centres in Edmonton

There are currently 12 senior citizen centres, within the city, providing both a facility at which services for the aged can be delivered, and a location where seniors can meet and interact with each other. The centres are:

1. The Alex Taylor drop-in.
2. Jewish Senior citizen drop-in.
3. Lions' Senior citizen recreation centre.
4. Operation Friendship.
5. Society for the retired and semi-retired.
6. Strathcona place society.

7. West Edmonton seniors.
8. S.C.O.N.A. senior centre.
9. Northgate Lions'Senior Citizen Recreation Centre.
10. Edmonton self starters organization.
11. S.E. Edmonton seniors drop in.
12. Calder senior citizens' centre.

Each centre provides its own range of services for the seniors. For example, centres such as Strathcona Place are multi-service centres which provide leisure, community and social services, health services and even assistance in finding housing. Centres such as the Lions centre specialize in providing primarily one type of service or other. For the Lions centre the specialization is in recreation.

The range and geographical distribution of senior centres

The various centres throughout the city do provide a diverse range of services for the seniors currently using them. The problem, however, is ensuring that seniors throughout the whole city are adequately served. The overall distribution of the senior citizen population in Edmonton is fairly widespread, although as mentioned earlier, it does tend to be concentrated in the older areas of the city. The membership and participants in all senior citizen centres are drawn from these areas. The most notable feature of the distribution patterns by users or members of the various centres is that the location of the centre results in a higher percentage of users from the immediate area. The results of a study conducted by the National Council on Aging (United States of America) indicated that 50 per cent of all the members or participants in any given centre came from the immediate area surrounding the facility (that is within a one mile radius of the centre). This conclusion seems to be generally applicable to Edmonton as well.

The Lions Senior Citizen centre and the Society for the Retired and Semi-retired, which have somewhat more universal mandates than the other centres, have tended to show a wider distribution throughout the entire city, areas of high membership or

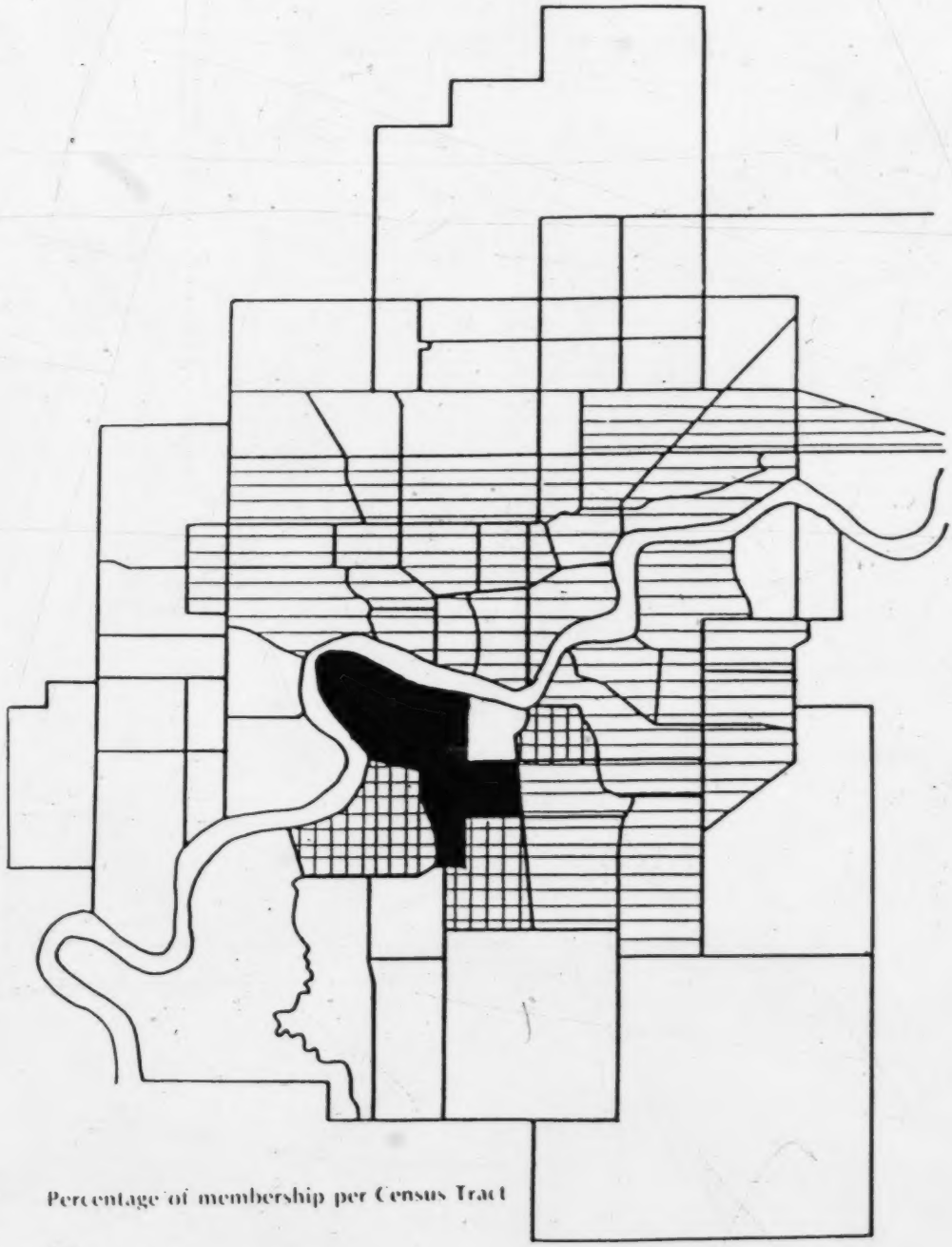
participation have coincided with high areeas of senior citizen concentration. These areas tend to be the immediate north side of Edmonton from the Boyle Street McCauley area through to Glenora, the immediate south-side around Strathcona and centring on Whyte Avenue, and to the north-east end, Beverly, Highlands and Norwood.

Other centres, such as those involved in 'Operation Friendship' which serves the Boyle Street/McCaully area, serve people mainly from the local vicinities. Both users of the drop-in centre and the outreach programmes indicate that a very high percentage come from the local area. Similarly Strathcona Place, which is situated in the old Strathcona part of south Edmonton, and was originally designed to serve the seniors of that area, has tended to indeed do that. Membership is concentrated on the south-side, although large numbers of members do come from the Oliver/Westmount areas. One significant feature of the Strathcona Place membership is that very few members come from the downtown core area served by the Operation Friendship centres. (Figure 4).

While the above centres all set out to try both to serve and help senior citizens in the community, the available data suggests that they are only partially successful in meeting with this objective. As stated in the "City of Edmonton Policy on Senior Citizen Centres", prepared by Edmonton Social Services, the 12 centres currently have some form of contact with over 10,000 seniors, which represents almost 1/3rd of the population over 65 years of age. These figures indicate that there are, therefore, many seniors, the majority in fact, who live in the community and who are either unable to ask for help or become involved in organized activities, or who simply do not want to participate. For those not wanting to participate the centres are in many ways superfluous, at least at the present time. For many of those presently unable to participate, however, the centres may be a possible source of either comfort or support that is being denied to them. McCuan and Hashimi's (1982) social isolation hypothesis is relevant here with non-involvement in the various centres often being a direct result of this social isolation. For example, many of these seniors living alone do not ask for help or assistance due often to a lack of

FIGURE 4

STRATHCONA PLACE SOCIETY MEMBERSHIP (1984)



information about the services available. Snider (1980), considering specifically the auxillary health service agencies, concluded:

> 'Health service awareness levels overall were only slightly better than might occur by chance alone."(P.1182)

It is these isolated, and often uninformed seniors, that the outreach programmes currently operating within the city attempt to contact and involve.

Outreach programmes

At present there are four formally organized outreach programmes operating within the city. They are administered by Strathcona outreach (Strathcona Place society), Operation Friendship, the Senior Citizens Opportunity Neighbourhood Association (S.C.O.N.A.), and the Society for the Retired and Semi-retired. The statement of their objectives by the Strathcona Outreach programme perhaps expresses the ultimate objective of all the respective outreach programmes namely that:

> "The objective of the outreach programme is to supplement or provide the necessary practical services and essential moral support to seniors, that will allow and encourage them to live with dignity and independence in the community"

Unfortuantely, there is no one single method of locating and contacting isolated seniors within the community. Word-of-mouth referrals are a major source of contacts, or even the visibility of workers and freindly visitors can lead to numerous referrals from citizens concerned about elderly neighbours. For example, Operation Friendship has several volunteers who spend considerable time working in communities that they are familiar with building up contacts with the local people. Telephone information requests and referrals from other social agencies and government bodies are two other main points of contact. An organized system of door-knocking by streets or blocks appears to be one of the best methods of finding isolated seniors. This method, however, requires considerable

---

[1]Strathcona Place society - Fifth Annual Report. Edmonton: June 1976.

manpower and time and thus limits most programmes from carrying out such extensive operations. Operation Friendship has attempted this method on occasion, but due to the limits mentioned above finds such research difficult to carry out .

Despite the considerable efforts of the various outreach programmes isolated seniors still remain in the community, and it is these seniors that frequently experience problems in utilizing the available services and facilities. Unfortunately, outreach programmes at the present time only operate in conjunction with agencies already offering other services to seniors, that is the senior citizen centres. While these centres may have organizational support, knowledge about aging processes, skills in dealing with seniors and seniors problems and even acceptability (credibility) within the seniors community, they often lack the time and money needed to carry out such outreach programmes effectively. For example, the Strathcona outreach programme, with only one employed member of staff, depends heavily on volunteer contributions. Operation Friendship (in the Boyle street area) similarly relies heavily on volunteer work. To what extent these volunteers can be expected to continue to provide a large percentage of the manpower is a question that must be examined closely. Secondly, should largely untrained volunteers be expected to handle the difficult and often complex problems facing many seniors? Isolation is often a manifestation of many emotional and physical problems which may not be accurately discerned or tackled by an untrained volunteer. To help reach many of the isolated seniors, at present not reached by the senior centre run programmes, a large extension of the existing outreach facilities is required involving trained professionals and outreach orientated agencies.

The elderly and health care

Various government and non-government reports concerning the elderly in the Edmonton area have suggested problems that the elderly seemingly face in utilizing the health care services currently available. This is not to suggest that the current services are unable to

provide adequate care for the elderly, however, improvements or refinements in the existing services are required. The Alberta Social Services and Community Health working paper (1979), entitled 'Understanding and Working with Older People' summed up many of the problems. It concluded:

> 'Good medical services are generally available, but may not be used by elderly people for many reasons'.(P.25)

The reasons for this non-use included problems of transportation, a lack of awareness of the available services and fears regarding the health care system itself.

The data for Alberta, however, clearly indicate that the elderly 65 years and over do use more medical treatment services than any other age group, and therefore have a greater need to contact the physician or the hospital. This is not to suggest that all those over 65 years of age impose heavy demands upon the available health services. In 1979/80 persons 65 and over in Alberta, used 14.2 per cent of all medical services (physician services) provided, amounting to 13.5 per cent of the total dollars paid. (Older Persons in Alberta: Their Use of Programs and Services. Senior Citizens Bureau Planning Secretariat Alberta Social Services and Community Health June, 1982). Males, for the same time period, used slightly fewer medical services per person than females although the overall costs of the services for males was slightly larger.

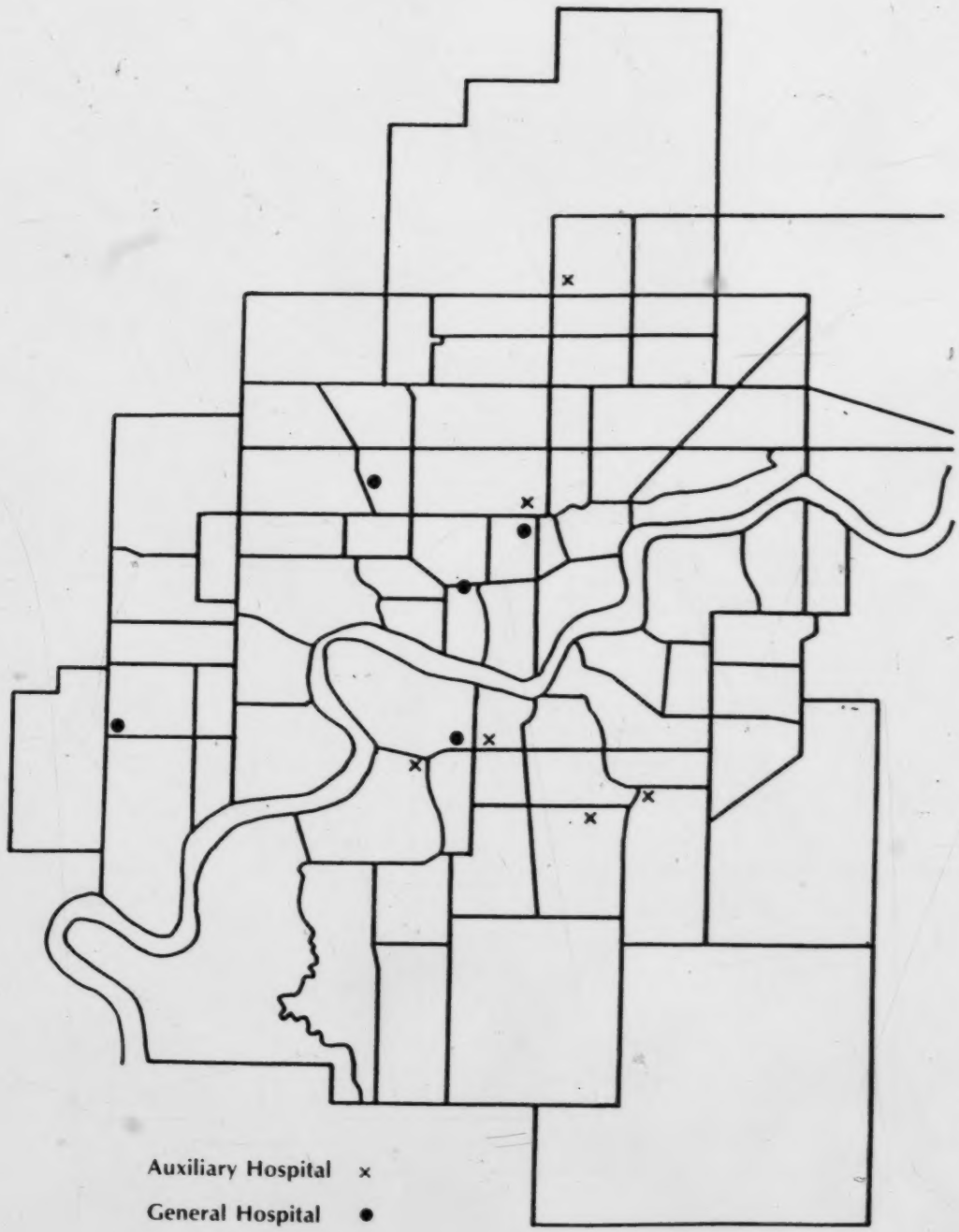
The present primary medical facilities available in Edmonton offer a large range of potentially available services.

Edmonton hospitals-Figure 5

1. General hospitals: A hospital classified as 'general' provides primarily for the diagnosis and short-term treatment of patients for a wide range of diseases and injuries and is not restricted to any specific age-group or sex. There are currently 5 general hospitals within Edmonton.
   - a. Edmonton Charles Camsell General (12815 - 115 Ave.)
   - b. The Edmonton General Hospital (11111 - Jasper Ave)

FIGURE 5

EDMONTON HOSPITALS



c. The Misericordia (16940 - 87 Ave.)

d. The Royal Alexandria (10240 - Kingsway)

e. Edmonton University of Alberta Hospital (8440 - 112 St.)

There are also 2 allied special hospitals catering for rehabilitation and extended care.

a. The Alberta Alcohol and Drug abuse centre (7500 - 89 St.)

b. The Doctor W.W. Cross Cancer Institute (11560 University Ave.)

2. Auxiliary Hospitals: Auxiliary hospitals are designed and operated for persons who require elements of hospital care at a less intensive level than is provided in general hospitals. The patients are usually either chronically ill or disabled. For some, treatment consists of rehabilitation to a point that return to the community or transfer to a nursing home or other residential facility is possible. For others, treatment is the provision of necesssary skilled nursing and medical care for an extended period of time, even though there is little or no prospect of rehabilitation. The following auxiliary hospitals serve the Edmonton city area.

a. Allen Gray Auxiliary hospital (7510 - 89 St.)

b. Edmonton and Rural Auxiliary Hospital and Nursing Home District No. 24 (14255 - 94 St.)

c. Glenrose Provincial General Hospital (10230 - 111 Ave.)

d. Good Samaritan Auxiliary Hospital (9649 - 71 Ave.)

e. Mewburns Veteran Centre (11440 - University Ave.)

f. St. Josephs Auxiliary Hospital (107 St. - 82 Ave.)

General and Auxiliary hospitals currently provide the main basis of long-term medical care in Edmonton. There is, however, a third type of hospital, namely the Day Hospital, also operating within the City of Edmonton, and it is this form of active treatment centre that the elderly find particularly useful.

3. Day Hospitals: Day Hospitals are health related programmes under the direction of health professionals and are designed for persons who require diagnostic,

rehabilitation and therapeutic services for a scheduled period of time. Two Day Hospitals are presently operating within Edmonton.

a. Edmonton and Rural Auxiliary Hospital and Nursing Home District No. 24. (14255 - 94 St.)

b. Youville wing, Edmonton General Hospital (11111 - Jasper Ave.).

Both the general and the auxiliary hospitals do provide a more than adequate coverage in terms of the number of beds and facilities available. The current day hospital provision, with a capacity to treat approximatley 450 patients, is not sufficient to cater for the growing demand for such treatment (P.S.C.A.C., 1982. Alberta Symposium on Aging 1982). Especially given the elderly's preference for remaining in the community other than accepting any form of institutionalization (Skelton, 1977;). And the cost-saving advantages of such treatment (Brocklehurst, 1973; and Lohn et al 1975).

4. Physicians:

Within Edmonton, as in Alberta, the physician is the base of and the usual entry point into the health care system. As such, they play a vital role in the health care process. Currently, there are 1324 physicians practising in the Edmonton area (The Royal Alberta College of Physicians and Surgeons Registry 1984). This represents approximately a 25 per cent increase from the 1976 total of 1065. The physician population ratio is approximately 2.4 physicians per thousand population. Also a slight increase from the 1976 figure of 2.3. Both figures compare favourably with the overall Canadian ratio of 1.7 physicians per 1000 population indicating that Edmonton is well served as regards the number of physicians currently in practise.

In terms of medical specialists, however, the city has had a recent history of both ommision in some areas and underprovision in others. (Social Services Planning Report 1977). For example, until 1980 there were no specialist geriatricians working within the city and currently a lack of staff within this area is still apparent (Alberta

Health Facilities Review Committee, 1983; P.S.C.A.C., 1982).

Past studies have also showed that the elderly have faced problems in both gaining quality treatment from physicians (Anholt, 1975; Stephens, 1978) and taking delivery of medical care within its present orientation (Skelton, 1977; Clarkson, 1976). These arguments concerning physicians and the delivery of health care will be examined at greater length within the results section.

D. Summary

The preparation of the 1982 Canadian Governmental report on Aging marked a major step forward by the Government in terms of the recognition of the role of the elderly in society. This initiative was largley continued by the second annual Canadian conference on Aging held in Ottawa in the autumn of 1983; a conference that again presented a major breakthrough in terms of an understanding of the elderly's views and opinions.

Both the report and the subsequent conference raised many interesting issues that will continue to be debated and discussed in the near future. One of these concerned the provision of primary health care services for the elderly considering aspects of both the quantity and quality of services required as compared to those presently available. From both an Albertan and Edmonton standpoint the elderly are well catered for as far as medical services generally are concerned. Evidence is, however, that problems still exist which need to be resolved if the present health services are to function to their full capacity thus providing adequate care for an ever-expanding senior population. The remainder of this thesis will concentrate firstly, upon an attempt to determine what problems, if any, a selected elderly population in Edmonton face in utilizing the present primary health care services, and secondly upon the causes and consequences of these problems, and how, if possible, they can be resolved within the present health care structure.

III. THESIS APPROACH AND METHODS

A. Introduction

The success of any research project is dependent upon firstly, the research techniques used and secondly, the results of their subsequent application. Different and varied research alternatives have the capability of producing different research findings and conclusions. It is, therefore, essential to ensure that the type of data required and the methods employed are complementary. The present study utilized three interrelated methods of research, namely:

1. A questionnaire survey
2. Participant observation/detailed study preparation
3. Secondary data source consultation

These three research techniques were used in order to provide both the quality and the quantity of data required. The questionnaire survey used a 'sample survey' approach and was aimed at the Strathcona Centre elderly. This procedure was selected because it provided an opportunity to gather specific and current data for the specialised group selected with the questionnaire framework providing for the systematic collection and analysis of this data.

The second method of research, involving the compilation of detailed individual studies, was designed to provide a qualitative complement to the quantitative questionnaire data. The survey design is the most common method of data collection in social research, with survey studies seeking to obtain quantitative descriptions among specified variables. They cannot, however, provide a qualitative description of actual behaviours. This requires further observational methods and case study preparation. The second method of research, involving participant observation and discussion/interviews, attempted to produce such case studies. The 'outreach' seniors using the Strathcona Centre were observed and studied around the facility and interviewed regarding their use of,and experiences with,the primary health care services in Edmonton. Home visits were also made to view the seniors in their own environment. On the basis of this research a series of detailed studies were then developed providing a qualitative side

to the quantitative data already gathered as part of the questionnaire study.

The final method of research, secondary data source consultations, provided further background information on the elderly within Edmonton and their relationship with the health care services considering the key issues of difficulties in reaching care and discrimination in their provision. Local government and non-government reports were referenced, as were the publications of senior groups working in the city. Contact was also made with two specialist geriatricians both currently working at the Edmonton General Hospital in an attempt to provide some information from the physician point of view.

In short, given the objectives of this research project; these three interrelated methods of research were selected as the techniques most likely to produce the best results.

B. The Questionnaire and Detailed Studies

The design

The formal questionnaire developed to test the thesis hypotheses (see Appendix 1) was produced after extensive reference to previous studies that had either looked at similar issues or were concerned with the elderly (Cantor and Mayer, 1976; Snider, 1973; and Denney, 1977), with many of the questions selected being reproduced from these earlier studies. The bases for selection were firstly, whether or not they had any particular relevance to the present study and secondly, whether in the previous studies they had produced data of sufficient quality and quantity to merit their use again. The participant observation approach was also adopted as a direct response to previous research, for example, Fulgroff (1978) and Leinbach (1982), which indicated the difficulties involved in gaining information from the elderly particularly on such personal matters as their use of health care.

The overall design of the questionnaire was governed by two major concerns. Firstly, that the questionnaire should be able to gather sufficient information to allow for both a detailed analysis and informed discussion of the major hypotheses, and secondly, that the

questionnaire should prove simple to both understand and complete for all the respondents. The questions were, therefore, written using as simple diction as was possible based on multiple choice questions requiring few written answers. This approach was selected to help the seniors overcome any problems that they were likely to face in completing the questionnaire with regard to physical and mental health disorders, (for example, reading and writing difficulties, Denney, 1977). The questionnaire was also designed to be as succinct as possible with careful effort being made, however, to ensure that enough detail was maintained, thus, allowing the relevant data to be collected.

The typeface for the questionnaire was chosen to match that used by Edmonton Transit in producing their range of publications aimed at the senior citizen, since the Transit Authorities reported that they had generally received a positive response from the seniors themselves on both the design and the layout of these publications. The actual size of the print was increased as compared to that of the Edmonton Transit brochures in order to make it even easier to both follow and read.

The questionnaire was divided into four main sections. The first section (Section A) was essentially concerned with the individual use that the respondent had recently made of the available primary health care services ("How you use health care"). The section, consisting of eight questions, considered both the quality and quantity of health care received (second hypothesis). All eight questions were answerable by the selection of one of the pre-coded responses.

The second section (Section B) focussed on the actual journey to health care, ("How you get to health care"), and was made up of five questions determining how the respondent travelled to health care, how long the journey took, and whether or not there were ever any difficulties or problems involved in the process(first hypothesis). Section B also contained two questions of a hypothetical nature asking the respondents how they would react in two different instances of travel and health related problems. The respondents were, again, merely required to select the appropriate answer although within this section multiple responses were allowed

when answering the final three questions.

Section C ("Some personal information") was made up of ten questions gathering demographic-geographic data providing background information on the respondent, thus, enabling further analysis and interpretation to be made of the answers given in the first two sections(first and second hypotheses). The questions gathered information on age, sex, housing type, income, social relations and general mobility. (Upon completing the questionnaire all the respondents were also asked to supply their address in terms of a street and avenue intersection in order to map the spatial distribution of the seniors completing a questionnaire.) The final section (Section D) was an open-ended question which asked the respondent if there were any general comments that he or she would like to make with regard to their experiences with the health care services in Edmonton. A lined answer space was provided for the respondents to describe their experiences. The four questionnaire sections were all designed to gather quantitative data on firstly, the elderly sample population and secondly, their use or non-use of the health care services.

The second method of data collection, the detailed study approach set out to describe the behaviour of the individual respondent in their use or non-use of the services. A different method of research was therefore required. For the detailed studies, therefore, the final questionnaire section presented the basis for the informal discussion/conversations that were conducted with the seniors outlining their own personal health use histories. Observations were also made regarding the respondent's personal mobility and overall functional capacity. In several cases the seniors were also visited in their own homes allowing more descriptive data to be collected. This qualitative data provided further insight into the problem being studied. Five detailed studies were completed the respondents being 4 females (80 per cent) and 1 male (20 per cent). The average age for the studies was 80 years as compared to the sample population average of 79.15 years. The detailed studies were therefore representative of the sample as a whole.

Target population

Both the questionnaire and the participant observation case studies were aimed at the elderly currently living independently within the community. For the city of Edmonton the 1981 census recorded 35,933 residents as being sity-five years of age or over.

One major problem encountered, however, in using such a 'target population' is the method used in firstly, seeking out the seniors within the community and secondly, establishing a contact with them. This particular age group is generally not very active in the community due to their advancing years. As such, they tend to form almost a hidden group in society and are prone to both isolation from and non-involvement in many of the community's affairs. Thus, contact with this age group is a difficult and time-consuming process. Some indication of the problems involved in reaching seniors within the community is reflected in the Social Service figures (1977) which indicated that despite the substantial network of senior citizen centres operating throughout the city contact is still only made with approximately one third of the total senior population.

Despite the difficulties experienced by the senior citizen centres in contacting the elderly within the community they are still in regular contact with more seniors than any of the other community based social service agencies. It was therefore decided to use the senior centres, specifically the outreach programmes, as a basis for selecting the sample population. This approach had several advantages.

Firstly, without the help of an established outreach programme locating seniors within the community would have been a difficult and time consuming process requiring an extensive search based on door-to-door inquiries and local neighbourhood information gathering. Even though the senor citizen centre network does not provide city wide coverage, it does have contact with a substantial number of seniors.

Secondly, by using a previously organized outreach population many of the barriers to initial contact were effectively removed. For example, many of the fears that an elderly person might otherwise have had in giving information to an unknown interviewer were eliminated by

the presence of familiar faces and surroundings. The outreach programme, thus, provided authenticity for the interviewer and the questionnaire.

Thirdly, the outreach programmes are designed specifically to assist and serve seniors within the community, as opposed to those in institutions, while aiming to include those seniors who are likely to require some assistance be it practical (house cleaning or transport for example) or moral (company or friendship). These general characteristics are all features of the community elderly for whom the questionnaire was designed, thus, making the outreach seniors a suitable selected sample population.

One negative point in using such a population does occur, however. Because of the problems involved in locating seniors within the community those presently served by the community outreach programmes represent a privileged minority who are already receiving some form of help or assistance. A large proportion of seniors are currently then denied such care even though they might benefit from it. It would be misleading, however, to conclude that all seniors within Edmonton would benefit from exposure to these services. Since a large, but as yet unknown, proportion chose simply not to become involved with the various services offered.

C. Questionnaire Delivery and Detailed Study Preparation

The questionnaire was deisgned to be self-explanatory, the instructions for its completion, and the reason for the inquiry, being provided on the introductory page of the question booklet. The seniors were asked to complete the questionnaire on their own without assistance with any questions that they had being directed towards the researcher and not fellow seniors. In the case of respondents with reading or writing difficulties the researcher undertook the task of helping the senior complete the questionnaire and upon its completion indicated this assistance on the face of the booklet. All of the questionnaires were completed in the above manner.

The participant observation detailed studies were compiled after a questionnaire had been completed and were undertaken as part of the researcher's general helping-out duties at the Strathcona Centre. The elderly were informally interviewed, observed using the centre, and where possible visited in their own homes. Notes were taken during the discussions and the observations to assist in the final compilation of the studies.

The pre-test

The pre-test was undertaken at the Strathcona Place Society and involved ten sample respondents. The sample as made up of eight seniors who were attending the centre on the day of the pre-test, the Director of the centre and the Outreach Officer. As a result of these preliminary tests minor alterations were made to the questionnaire in question wording, structure and order. The finished questionnaire was then delivered to the sample population.

The sample population

The sample population for both the questionnaire and the detailed studies were those seniors registered with the Strathcona Place Society's Outreach Programme at the beginning of September 1984. The total number of seniors registered with the Strathcona programme at the time of the delivery was 198, which represented a small sample of all the outreach seniors throughout the city. The four current outreach operations cater for approximately 875 seniors presently living independently within the community, 418 males (48 per cent) and 457 females (52 per cent). Of the four programmes only Operation Friendship, administered in the Boyle Street-McCauley area, caters for a greater proportion of males than females (69 percent to 31 per cent). The other three all serve similar populations with a predominance of females approximately 65 per cent to 35 per cent males.

The Strathcona programme was selected for three main reasons. Firstly, the assistance offered by the Outreach Officer in contacting the seniors concerned, thus, helping to break down many of contact barriers. Secondly, the large number of elderly who live in Strathcona

and use both the centre and the services and facilities that it offers. Thirdly, the proximity of the research area to the university making access to the centre, and the seniors, a simple process.

The sample population consisted of the complete list of outreach seniors using the programme, 198 in total. The total outreach population was selected because firstly, it was not excessive in its demands on time and money resources. Its average age, at 77 years, and its sex ratio, of 65 females to 35 males was similar to the outreach operations for the city as a whole (excluding Operation Friendship) with an average age of approximately 75 years and a sex ratio of 65 females to 35 males. While membership of the Strathcona Place Society was concentrated in the census tracts directly south and south-west of the university, that is adjacent to the centre itself, members were also located in other areas of the city (figure 4).

Because of the nature of the sample, that is a selected elderly urban population, generalizations for the elderly population of Edmonton as a whole are hazardous. It is only with data from probability samples that estimates concerning the population as a whole can be made with any degree of certainty. The findings from the present study whilst relevant within this context can not, therefore, be broadly applied elsewhere.

Method of delivery

The questionnaires and detailed studies were all completed at one of three locations. The seniors were either contacted at the outreach teas and the Wednesday evening meals held at the centre, or contacted at home. The bulk of the questionnaires was completed at the outreach teas and the Wednesday evening meals, while the case studies were completed at a combination of the locations and required a much longer period to compile. When the survey was originally devised it had been hoped to use the outreach volunteers to administer the questionnaire to the seniors as part of their visiting duties. At the time of the questionnaire delivery, however, only three volunteer visitors were registered with the programme, two of whom were seniors themselves both being members of the Strathcona Place Society. Therefore, the questionnaires

were administered and the detailed studies compiled entirely by the researcher.

The outreach teas, which provided the largest source of completed questionnaires, are provided for seniors who would otherwise remain isolated in their homes unable to reach the centre. In organizing the teas the outreach population is divided into four groups each attending the centre for their tea once every month. Those seniors who were not contacted at the teas were either approached at the Wednesday evening meal or contacted at home.

Several seniors attended the teas every week despite the semi-formal group structure. This small group consisted of those elderly who either lived close to the centre, generally within a couple of blocks radius, or those whose other social contacts outside of the centre were minimal, making them heavily dependent on the programme for both emotional and social support.

In direct contrast to this group were the many seniors who despite being registered with the outreach programme attended none of the organized teas. It was these seniors who proved most difficult to question/interview. The reasons for non-attendance were varied. Two frequently suggested arguments for non-attendance were firstly, a recent considerable decline in their emotional and/or physical states resulting in an inability or fear of leaving their homes and secondly a form of voluntary non-involvement whereby the senior simply no longer wished to attend the social meetings.

Out of the total registered outreach population 160 were approached to fill in a questionnaire. Ninety-six completed questionnaires were collected with 64 refusals leaving 38 seniors with whom contact was not made. The reasons for non-contact included the following: several of the seniors died or were ill during the two month research period and so were unable to complete a questionnaire. Several were also out of town during the field work period either on vacation or staying with friends; contact with this group was also therefore impossible. Finally, many of the seniors on the outreach programme did not attend the outreach teas. In these circumstances home interviews were organized with the assistance of the Outreach Officer. Only 5 questionnaires were completed, however, in this way since many of the seniors were

simply unwilling to allow any form of outside contact. The 5 home visits completed did subsequently provide the basis for four of the detailed studies finally compiled.

With 96 completed questionnaires and 64 refusals or non-completions, the response rate was moderately high at approximately 60 per cent. Several factors contributed to this response rate. The seniors currently using the Strathcona Centre had been heavily questionned over a period of six months prior to the present study. There was, therefore, some resistance to completing "yet another questionnaire." Several seniors also suggested that they would answer the questionnaire if they could return home with it and complete it at their leisure. Of the ten questionnaires handed out in this manner, however, only two were eventually completed and returned.

Many seniors simply declined or were unable to complete a questionnaire due either to physical or mental disabilities. Assistance was provided on numerous occasions to seniors who were either functionally blind and so were unable to read the questionnaire or who were unable to write due to arthritis or a nervous disorder, for example. At the Wednesday evening meal in particular, and at the outreach teas on occasion, some seniors stated that they did not have time to complete the questionnaire commenting that they had to come to the centre in order to dine or socialize and not to fill out questionnaires.

The majority of those who declined to complete a questionnaire simply indicated that they did not want to take part in the survey and expressed no general feelings or opinions as to why they were unwilling to do so. Further problems were also encountered in collecting fully completed questionnaires. The completion of certain questions, particularly the general comment section (Section D), and those questions requesting information of a personal nature proved problematical. The respondents were encouraged to answer all the questions but could not be forced to do so. Several respondents, in addition, expressed uncertainty when answering particular areas of the questionnaire. For example, many of the seniors had problems in recalling information from the previous six month time period while others found even the most straight-forward questions difficult to complete. Many of the respondents were either

physically or mentally impaired and so had considerable difficulties in completing the questionnaire. Where seniors were unsure of an answer they were instructed to select either the 'don't know' response, leave the question unanswered or simply indicate their uncertainty next to the relevant question.

The questionnaire contained several questions designed to test the reliability of the respondents' answers by using part of the mental status questionnaire developed by Smith (1977), and as used by the Saskatchewan Department of Health. Information given for questions of age, address, and family status, for example, was readily comparable against similar data recorded by the Outreach Services. Any major information discrepancies between the two resulted in the whole questionnaire being carefully reviewed.

At both the outreach teas and the Wednesday evening meal several of the respondents communicated with other seniors whilst completing the questionnaire. This suggested some degree of plagarism in the final answers. When the questionnaires were administered the respondents were specifically instructed to complete them individually and to ask only the researcher for assistance in their completion. Every attempt was made to minimize consultation between the seniors but at the same time it was feared that if the seniors suspected that they were being reprimanded then the interview/questionnaire would be completely lost.

The attempts to gather data for the second hypothesis, however, did provide some disappointing results. Despite contact being made with two senior geriatricians at the Edmonton General Hospital data regarding the present provision of such specialists throughout the city, and the physician view of the elderly, was not forthcoming. Neither physician was willing to present a health professional viewpoint on the problems of dealing with and/or treating the elderly patient. The final data analysis for much of the second hypothesis was, therefore, carried out without the substantive contributions of the health care personnel themselves.

Data analysis

The quantitative data from the questionnaire study was collated and analysed by means of chi-square tests and regression analyses. While the chi-square tests were used to measure for associations between the variables the regression analyses indicated their relative influence upon the problems studied.

Chi-square tests are frequently used within social science research to measure for associations between variables, the levels of recorded association then being tested for significance. The advantages of chi-square tests include their ability to deal with either nominally scaled or ranked data. The disadvantages ,however, include their low level of explanation in that although associations can be noted their substantive significance can not be determined, therefore to solve this problem regression analyses were also used.

Before the regression analyses were attempted , however, the key variables were firstly tested for any intercorrelations. Variables that showed such multicollinearity were scrutinized with the objective of removing one of them from the subsequent analysis. Checks for independence having been completed the influences of the independent variables upon the dependent were examined by use of the stepwise regression model. The stepwise regression test is essentially a research procedure in that the stepwise technique 'searches out' the greatest contributors to the total variance and effectively rank orders them.

The detailed studies were used,where applicable, to illustrate the main relationships demonstrated by the data, thus providing a qualitative supplement to the quantitative data set. (For the Chi-square calculations $P < 0.1$ was regarded as being statistically significant).

D. Summary and Conclusions

Both the questionnaire and the detailed studies proved effective approaches for gathering the required quantity and quality of data from the targeted elderly population. No major field problems emerged, although it had been initially hoped that more questionnaires would be completed and that contact would be made with the geriatric medical profession

working within the city. The elderly do face considerable difficulties in completing questionnaires, hence the positive response rate of only 60 per cent. The use of seniors already involved in a formal outreach programme helped considerably to break down many of the barriers to effective contact although there was still a general fear on the part of many of the respondents in completing a questionnaire. The elderly population are traditionally not one of the most voiciferous groups in society a reflection of both their advancing years and weak organization as a pressure group. Attempting to gather the opinions and preferences of this group, therefore, becomes both a difficult and a time-consuming process. The more informal nature of the detailed studies did encourage a greater response from the seniors and provided some important data from the behavioural viewpoint.

The only major fieldwork objective that was not achieved was contact with the specialist geriatricians. Both of the senior geriatricians contacted were unwilling to provide information and discussion on the elderly and health care in Edmonton despite reassurances of confidentiality. In conclusion it can be said that the present fieldwork was completed successfully in accordance with most of the objectives set out. Only in contacting health care personnel were difficulties experienced.

IV. DESCRIPTIVE STATISTICS OF THE SAMPLE POPULATION

A. Introduction

An overall review of the elderly in Edmonton, in general, and in Strathcona in particular, was presented in the first three chapters of the thesis. These results can now be compared to the demographic statistics gathered for the sample survey population of the Strathcona Place outreach population. To aid these comparisons the data will be discussed under 6 major headings, namely:

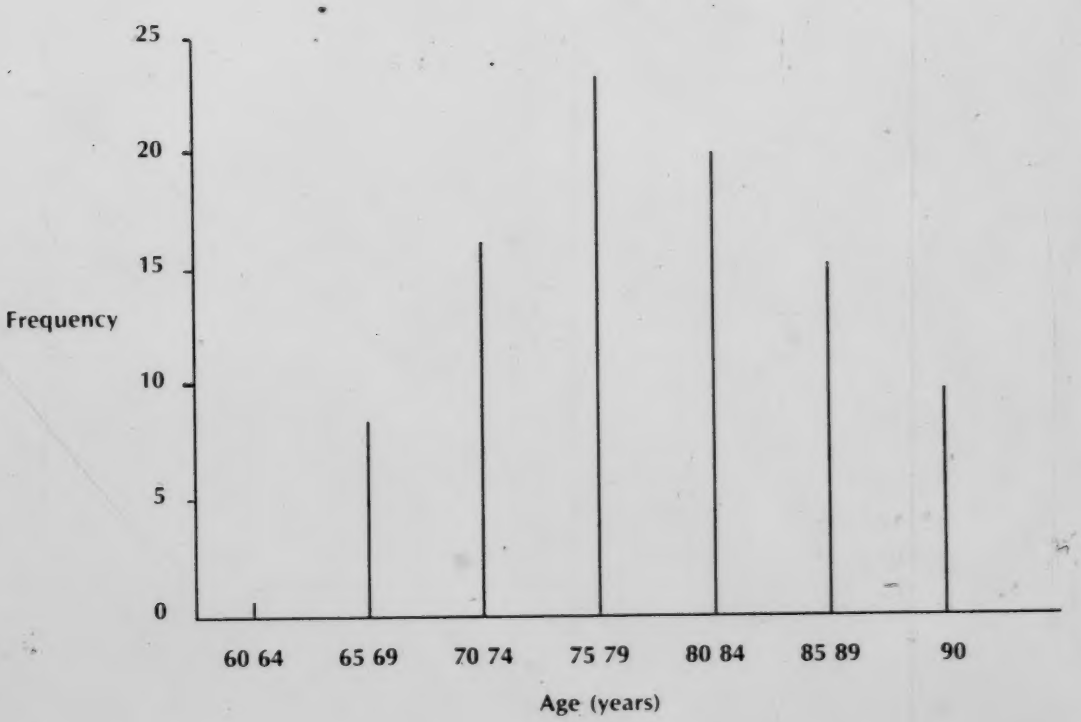
1. Age.
2. Sex.
3. Functional capacity.
4. Housing type.
5. Income.
6. Residential location and status.

Age

The population surveyed was, as was intended, of considerable age. The average age for the sample population was just over 79 years at 79.15. The range was from 63 to 93, a spread of thirty years or just over one generation. The modal class was 75 to 79 years with a frequency of 22 (Figure 6); 81 being the sample mode with a frequency of 9. The youngest member of the sample at 63 was a disabled female polio victim who relied heavily on the centre both as a social meeting place and on outreach facility. While the oldest respondent, at 93, was a male who lived in the senior citizens lodge directly behind the Strathcona centre. The lower population quartile ranged from 63 years to 74 inclusive, whilst the upper quartile covered the ages 85 to 93 inclusive. The median sample age was 81.

FIGURE 6

QUESTIONNAIRE SAMPLE BY AGE



Sex

The sample population was made up of 23 males (24 per cent) and 73 females (76 per cent). This, relative to the elderly population of Edmonton as a whole, represented a considerable over-representation of females but can be explained by reference to several factors. Firstly, an over-representation of females is reflected generally in the membership of the Strathcona outreach programme which caters for 65 females for every 35 males. A similar over-representation is also present in the membership of the Society for the Retired and Semi-retired which reported almost identical figures in its annual report for 1982. As a whole, current figures indicate that the present network of senior organizations throughout the city attract greater numbers of female members than males, a reflection of their general appeal and the activities that they offer. Secondly, for the city of Edmonton the respective sex ratio for those seniors 75 years or over in 1981 was 61 to 39. Whilst the ratio for those seniors 85 years and over was even more imbalanced with 65 females to every 35 males. An imbalance related to the longer average life expectancy of females ahead of males (83 years to 79). In short, there are greater numbers of females over the age of 65 than males. The over-representation of females within the sample, therefore, is not due to a sampling bias.

Functional capacity

As age increases there is a weak directional relationship suggesting that disability, or the likelihood of disability, also increases, a result of the rise of degenerative illnesses generally amongst the elderly. The present functional capacity index was based on the Townsend Index of capability, an index devised to measure the level of disability relating to simple household and neighbourhood tasks (Shanas,1968). The original index asked respondents the extent to which they could perform six tasks of daily living, including going outdoors, walking up and down stairs, getting around the house and washing and bathing. The present scale represented a summary of the index involving five tasks ranging in difficulty from walking to climbing a ladder. This revised Townsend Index is similar to others used throughout the gerontological

literature, the main differences being for example,in the varying levels of sophistication (Caillon and Frost, 1982 - Activities of Daily Living Scale; and Pfeiffer, 1975 - OARS Methodology). For the sample population the following results were obtained (see Figure 7). Just under 29 per cent of the respondents were unable to perform more than one of the five tasks described. This portion of the sample can therefore be regarded as suffering from an advanced state of disability resulting in considerable hardships in the carrying out of simple household duties and general travelling.

For the remainder of the sample the results were as illustrated (Figure 7) with 42.5 per cent able to perform either two or three of the tasks and 28.7 per cent able to do either four of them or all five. It should be noted, however, that whilst it is safe to assume that the overall level of disability increases with age for any sample population individuals of a similar age will experience different levels of disability, differences which make specific comments or comparisons difficult, and which will be discussed later.

Housing type

The range of housing described in the questionnaire (Appendix 1) consisted of three main types.

i. Apartments.

ii. Private houses or dwellings.

iii. Senior citizen housing projects or lodge accommodation.

The following table indicates the distribution of the sample across the three categories (Figure 8). Those residing in both apartments or private houses and lodge accommodation were regarded as living independently within the community, whilst those living in either senior citizen homes or other long-term care institutions were not, The latter, generally being in receipt of some form, or forms, of community support ranging from either janitorial assistance to matronly supervision. The city outreach programmes are in general aimed at reaching those seniors still living independently within the community and who at present receive little or no

FIGURE 7

FUNCTIONAL CAPACITY BASED ON THE TOWNSEND INDEX

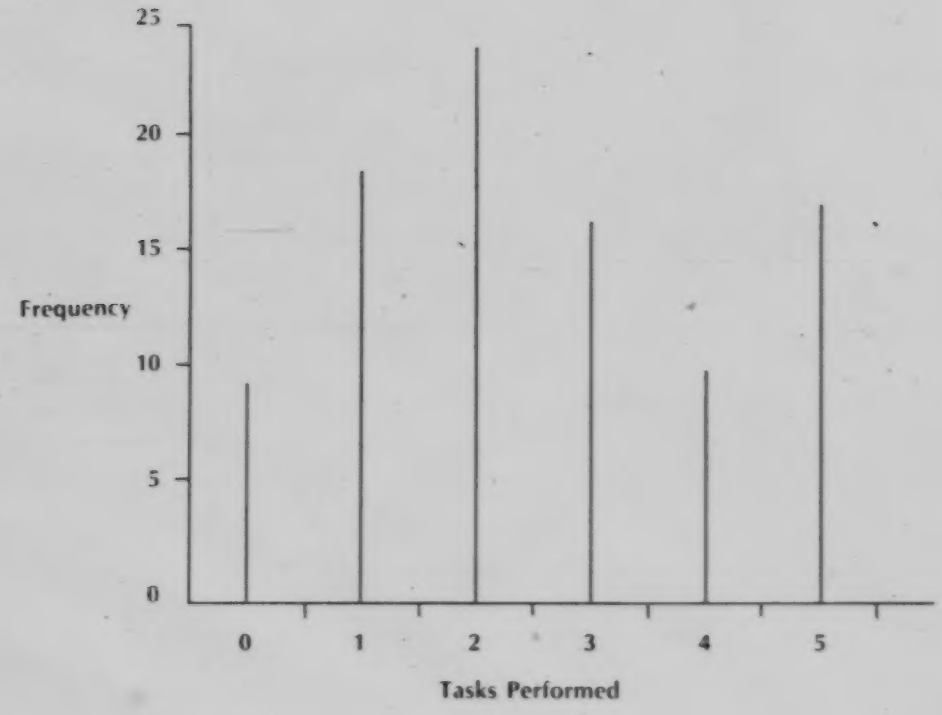


FIGURE 8

SAMPLE POPULATION HOUSING TYPE

Type of housing	Frequency	% of Respondents
1) Apartment with elevator or first floor walk-up	46	47.9
2) Apartment with two or more flights of stairs	5	5.2
3) House	31	32.3
4) Other (Lodge)	14	14.6
Total	96	100

assistance within their homes. This objective was reflected in the percentage of the sample population of seniors who still lived in either of the first two housing categories, approximately 84 per cent. The remaining sixteen percent live in senior lodge accommdation therefore still being classified as community living.

Income

The seniors were requested as part of the questionnaire firstly, to indicate their sources of income and secondly, to suggest whether or not they found their present income sufficient on which to live. This approach avoided a direct question on actual income amount in the hope that this would result in a higher response rate on an otherwise sensitive issue. The results for the main income sources were as follows (Figure 9). Ninety-five per cent of those respondents who completed the questionnaire were in receipt of a government pension while 17 per cent had income from other sources, usually either investments or some other pension (for example, army, civil service and teaching). Just under 5 per cent were still in employment and just over two per cent relied on their family and friends for support. Since multiple responses were allowed the final percentages sum to greater than 100. This reflects the finding that most of the seniors did have more than one source of income, with the government pension being by far the singularly most important source.

On the question of income sufficiency just under 95 per cent of the respondents indicated that they found their present income sufficient to live on, with only 5 per cent stating that they did not. This result obviously reflects the comfortable overall financial position of the Strathcona elderly and further substantiates one of the conclusions drawn by Snider (1976) when he noted that although the various measures used to evaluate income suggested that approximately three-quarters of the elderly are poor, the majority, when asked, stated that their income was sufficient to live on. This suggests that many of the present poverty scales still used to measure income sufficiency need to be revised in order to better accommodate the incomes and expenditures of senior citizens.

FIGURE 9

SAMPLE POPULATION SOURCES OF INCOME

Income Source	Frequency	% of Respondents
1) Employment	4	4.6
2) Government Pension	83	95.4
3) Family or Friends		
4) Other (e.g. investment income)	15	17.2

N.B. Total number of respondents 87

Location and residential status

The population sampled was, as was expected, residentially located on the southside of the river surrounding the Strathcona Place society centre at 10831 -University Avenue. In straight-line distances from the Strathcona centre just under half of those questioned, 48.8 per cent, lived within a 1 km radius with 34.2 per cent living between 1.01 and 2 kilometres away, and the remaining 17 per cent residing over 2.01 kilometres, from the centre itself. These results support the conclusions of the previously mentioned National Council on Aging Report which indicated that the majority of the users of a given centre come from the immediate area surrounding the facility.

Seventy-five per cent of the sample respondents lived alone, with a larger percentage of females living alone than males, 77 to 69 per cent respectively. These calculations excluded those elderly who answered that they lived alone but merely had their own room within lodge accommodation.

B. Summary and Conclusions

The outreach population sampled was of considerably advanced years, three quarters female and living independently within the community. They were also subject to a high level of personal disability with 25 per cent of those questionned indicating a severe level of disability, and just over half suffering from less serious disabilities. Financially the population, based on their own self-evaluations, were comfortable and not subject to any major financial hardships. Compared to the elderly population of Edmonton as whole the sample respondents were generally older, more disabled, and living completely independently within the community, since no institutionalized elderly were contacted. They also showed a greater tendency to be living alone 75 per cent as compared to 36 per cent for the city as a whole.

V. THE ELDERLY AND DIFFICULTIES IN REACHING HEALTH CARE

A. Introduction

The first hypothesis raised, and described in general terms within the introduction, stated :

> 'That problems of accessibility to primary health care for the selected urban elderly population are influenced more by the socio-physical factors of age, functional capacity and social isolation, than by the geographical factors of distance, as measured by travel time, and method of transport.'

The hypothesis will now be tested to determine the validity of the overall statement. Firstly, the hypothesis will be examined from the general perspective of the actual difficulties faced in reaching health care. Secondly, it will be further examined in an attempt to identify the key variables influencing these difficulties, for example, age functional capacity, social isolation, distance and method of transport. Any internal links between the variables will also be discussed and considered so as to avoid any affect that they might have upon the overall analysis.

For the sample population as a whole 31.4 per cent of the respondents indicated that they did experience some problems in reaching the available health care services. Given that the current elderly population of Edmonton can be estimated to be in the region of 36,000 any difficulties that they might face in reaching health care represent a serious problem. Especially considering the elderly's dependency generally upon such services. The sample population was further in the privileged position of already being in contact one of the community services operating within the city. This, as past evidence indicates (Beaver,1981), places them in an advantaged position as far as reaching health care is concerned and suggests that the difficulties faced by other less well-contacted seniors may be even greater.

Much of the data from the participant observation exercise also focused on the first hypothesis, with similar results being found to the questionnaire study. The seniors involved in the outreach programme were viewed extensively both leaving and entering the facility, and

walking inside and outside the centre. They were also engaged both in informal conversations and discussions, by the researcher, concerning their general mobility, support group status, and use or non-use of the health care services The results from the participant observation exercise will be discussed at greater length throughout the present chapter.

While the first hypothesis was aimed at generally reviewing the nature of the difficulties that the elderly faced in reaching health care it was also intended specifically to provide some insight into the factors that resulted in these problems. The first hypothesis was therefore approached by reviewing the data from the standpoint of two main questions.

i. What are the difficulties faced?

ii. What factors are related to these difficulties?

B. The Difficulties Facing the Elderly in Reaching Health Care

Just under one third (31.3 per cent) of the seniors questionned experienced some difficulty in reaching health care. Four major areas of accessibility were described in the questionnaire (Appendix one) with the seniors being requested to select one or more of them if relevant. The percentages of seniors selecting these four difficulties were as follows. Forty-eight per cent of those seniors who experienced difficulties indicated that the problem was 'no one to take them.' Twenty-four percent suggested that either the clinic's or doctor' service hours were unsuitable, whilst 17 per cent described the medical services as being 'too far away'. Fourteen per cent stated that the 'travelling costs were too high', resulting in financial hardships when journeys to the health services were required.

Since more than one answer was often applicable the above percentages sum to greater than one hundred. These percentages represent, therefore, the number of respondents who indicated this one problem as a percentage of the total number of elderly who indicated one or more specific difficulty or difficulties. For example, 48.3 per cent of those respondents who described one or more specific difficulties selected no one to take me' as one of the problems that they faced. Overall, the lack of some form of travelling companion, or some suitable

means of transport, were the chief problems outlined by the seniors who experienced difficulties. These results are comparable with previous studies of a related nature, for example, Garetz and Peth (1974) and the National Council on Aging project (1970).

The data from the participant observation exercise, when combined with that of the informal discussion groups, also produced similar findings regarding the difficulties faced. The information collected was of a different nature, however, with specific information being gathered in a personal history format rather than a large quantitative body of data. For example, the eldest member of the sample, a 93 year old male, who had recently undergone surgery for the removal of an eye cateract, described his own dependence upon his daughter for transport to and from the hospital where he was registered as an outpatient, and the medical centre which he was required to attend for drug prescription and sundry related consultations. Within this example the daughter provided the two key elements of travelling companion and means of transport necessary for the elderly to visit the primary health care services. Without this assistance, as the respondent concluded, he would not have been able to travel easily to and from his various medical appointments.

The difficulties expressed in both the questionnaire and participatant observation studies indicated the importance of not only a travelling companion but also the method of transport available in reaching health care. In order to further interpret these difficulties in light of both the personal characteristics of the elderly and the geographic variables more detailed analysis was carried out.

C. The Influence of Personal and Geographic Variables on Difficulties in Reaching Health Care

The five selected variables of age, functional capacity, social isolation, distance (travel time) and method of transport, have all been suggested throughout the literature as factors influencing the elderly and difficulties in reaching health care. The aim of this line of inquiry was therefore to measure the relative contribution of each factor in an attempt to determine whether the personal characteristics of the elderly or the external geographic factors were more

important in explaining difficulties in reaching health care.

The five selected independent variables were justified and categorized as follows.

Age

While numerous previous studies have pointed to a relationship between increasing age and difficulties in reaching health care the exact form of the relationship is far from clear. Within the present study the elderly were classified by age into one of three categories; 74 and under, 75 to 84 and 85 and over. Chi-square testing showed that there was no significant association between age and difficulties in reaching health care (Table 4).

Functional Capacity

Functional capacity (Level of Ability/Disability) has been suggested as a frequent variable in influencing the accessibility of health care for the elderly (Skelton, 1977; Neugarten, 1974). Since low levels of functional capacity imply difficulties with mobility skills generally disabled seniors often face problems in reaching care. For example, functionally incapacitated seniors dependent upon public transport to get around face obvious difficulties both in boarding and leaving the bus and/or then walking to and from the stop to the relevant treatment facility.

Within the present study functional capacity was categorized by the ability to perform 0 to 5 of the household and neighbourhood tasks outlined in the Townsend Index of Ability (See Chapter 4). Chi-square testing revealed a significant association between decreasing functional capacity and increasing difficulties (Table 5).

Social Isolation

The importance of social isolation with regard to many of the health care accessibility problems of the elderly has also been discussed at length within the literature (Ward, 1977; Cantor and Mayer, 1976). For the present study four separate indices of social isolation were

TABLE 4

DIFFICULTIES IN REACHING HEALTH CARE BY AGE

Experience Difficulties	Age (years) 74 and under	75 - 84	85 and over	Total (n)
Yes	5	16	9	30
	16.7	53.3	30.0	
	20.0	39.0	34.6	
No	20	25	17	62
	32.3	40.3	27.4	
	80.0	61.0	65.4	
Total (n)	25	41	26	92
	Chi-square = 2.62;	d.f. = 2;	n.s.	

TABLE 5

DIFFICULTIES IN REACHING HEALTH CARE BY FUNCTIONAL CAPACITY

	Functional Capacity			
	(unable)		(able)	
Experience Difficulties	0,1	2,3	4,5	Total (n)
	15	10	4	29
Yes	51.7	34.5	13.8	
	57.7	25.6	14.8	
	11	29	23	63
No	17.5	46.0	36.5	
	42.3	74.4	85.2	
Total (n)	26	39	27	92

Chi-square = 12.37; d.f. = 2; P 0.01.

therefore included all of which attempted to measure some degree of social withdrawal. The four indices have all been tested previously within the literature (Rathbone-McCuan and Hashimi, 1982; Canor and Mayer, 1976; Petty, 1976) and provided substantive data. The indices were:

i. Residential Status

ii. Family Visits

iii. Neighbourhood Contacts

iv. Community Involvement

For the purpose of the present analysis the following categorizations were used. Residential status was recorded as either living alone or not living alone ; family visits were scored from 0 to 4, ranging from weekly visits to no visits and no family; neighbourhood contact was classified between yes knowing neighbours and no not knowing neighbours; finally, community involvement was quantified as yes involved and no not involved. The associations were tested for each of these variables with difficulties in reaching health care. The only significant association using chi-square tests was found between difficulties in reaching health care and family visits (Table 6).

Distance-Travel Time

Distance (travel time), as used within geographic studies in particular has been shown to exert an influence upon health care accessibility generally (Stimson, 1982; Morris, 1976). The overall described relationship being an increase in difficulties with increasing travel distances. Since many of the elderly face difficulties with longer journeys to health care, often a result of reduced mobility and activity levels, it was hypothesized that travel time would have an influence upon accessibility. Distance was therefore categorized by distinguishing between journeys to health care of under 30 minutes and those of 30 minutes or over. In chi-square testing no significant association was found between distance and difficulties in reaching health care.

TABLE 6

DIFFICULTIES IN REACHING HEALTH CARE BY AGE

Experience Difficulties	Age (years) 74 and under	75 - 84	85 and over	Total (n)
Yes	5	16	9	30
	16.7	53.3	30.0	
	20.0	39.0	34.6	
No	20	25	17	62
	32.3	40.3	27.4	
	80.0	61.0	65.4	
Total (n)	25	41	26	92

Chi-square = 2.62; d.f. = 2; n.s.

Method of Transport

As a final influence upon difficulities in reaching health care the method of transport usually taken when receiving treatment was measured. The method of transport used was classified according to whether assistance was provided or whether it was not provided, with the hypothesized relationship being that those elderly whose transport was not assisted would face greater difficulties in reaching health care. The chi-square association for method of transport with difficulties in reaching health care was not significant.

Difficulties in Reaching Health Care

The dependent variable was simply categorized as either yes or no depending upon the individual respondents answer to the question "Do you ever experience difficulties in reaching health care?"

Findings

The relative influence of each of the identified variables on difficulties in reaching health care was determined by use of stepwise regression. The stepwise regression test is essentially a research procedure in that the stepwise technique 'searches' out the greatest contributers to the total variance and effectively rank orders them. In order to test for multicollinearity between the variables before the regression was run a correlation matrix was produced for all the variables in the equation (Figure 10).

As a result of the strong negative correlation between the variables age and functional capacity (-0.44) it was decided to drop the age variable from the analysis. This strong correlation had been suggested as a possibility in the literature, (Kart, 1981; Cantor and Mayer, 1976), for old age generally does herald the onset of a decrease in functional capacity, as Skelton 1977 concluded:

'Increased age does lead to a decrease in physical capabilities.'

FIGURE 10

MEANS, STANDARD DEVIATIONS, AND ZERO ORDER CORRELATIONS FOR ALL VARIABLES N = 91

Variable	1	2	3	4	5	6	7	8	9
Transport	1.00								
Distance	-0.09	1.00							
Difficulties	-0.01	-0.09	1.00						
Age	-0.12	-0.20	0.09	1.00					
Alone	-0.08	0.16	0.11	0.09	1.00				
Family	-0.19	0.03	0.29	-0.03	0.11	1.00			
Neighbourhood	-0.13	-0.10	-0.17	0.00	-0.05	-0.06	1.00		
Community	0.05	-0.18	0.14	0.12	-0.05	0.07	0.03	1.00	
Disability	-0.09	-0.01	-0.33	-0.44	-0.06	-0.07	0.16	-0.18	1.00
Means	1.69	0.43	0.30	2.00	0.60	1.34	0.90	0.26	2.56
Standard Deviations	1.00	0.74	0.46	0.74	0.49	1.61	0.30	0.44	1.58

Age was omitted instead of functional capacity because of the conclusions from past studies, for example, Neugarten, 1974, that had suggested the weakness of age itself as a categorizing principle for the elderly and difficulties in reaching health care.

The results from the stepwise regression analysis indicated the importance of the following variables (Figure 11). In explaining difficulties and reaching health care for the present elderly data set the most important variables identified were firstly fuctional capacity and secondly, family visits. None of the remaining four variables had regression coefficient values significant at the 0.05 level (that is increased the variance explained by a statistically significant amount). The proportion of the total variance explained by each of the two significant variables was calculated by multiplying the relevant beta value and the zero-order correlation of that independent variable with the dependent variable(Gorden 1968). The variances explained by functional capacity and family visits, the two greatest contributors, were 13 per cent and 7.5 per cent respectively. The important factors influencing the health care accessibility problems of the elderly can therefore be primarily related to disability and social isolation as measured by family visits thus indicating the relative importance of personal characteristics ahead of external geographical variables.

Summary

The results from the stepwise regression analysis indicate the importance of non-geographic ahead of geographic factors in explaining difficulties in reaching health care. In terms of the strengths of the relationships, however, the two main variables identified as having a statistical influence upon the difficulties experienced accounted for only 16.5 per cent of the variance when combined.

FIGURE 11

STEPWISE REGRESSION OF INDEPENDENT VARIABLES ON DIFFICULTIES IN REACHING HEALTH CARE

Variable	Zero-Order Correlation	Multiple Correlation	Cumulative Variance	Beta	Variance Explained
Functional Capacity	0.327	0.327	0.139	0.353	11.5 %
Family Visits	0.285	0.465	0.216	0.277	7.9 %

F = 10.73 P<0.0001 N = 91

D. Conclusion: The Elderly and Difficulties in Reaching Health Care

The analysis of difficulties in reaching health care for the elderly produced the following major findings. Just over 31 per cent of the elderly sample population experienced difficulties in reaching health care. The major difficulties described were related firstly to the lack of a travelling companion, and secondly to the unsuitability of current service hours. These results are generally comparable to those of previous studies of a related nature (Kart, 1981; Cantor and Mayer, 1976).

The main factors influencing these difficulties were found to be related to the internal personal characteristics of the elderly, that is functional capacity and social isolation (as measured by family visits), ahead of more external geographic factors such as distance and method of transport. Overall, however, the general levels of explanation achieved by these variables were low. These findings, therefore, suggest the need to either firstly consider further variables, or combinations of variables, in an effort to better explain difficulties. Or secondly the need to recognize the distinct heterogeneity of the elderly as a series of sub-populations experiencing varied influences upon service use or non-use (Streib, 1983; Neugarten, 1974).

Within the context of the above suggestion difficulties in reaching health care were examined from the standpoint of varying degrees of frailty amongst the elderly ranging from those classified as frail to those as non-frail. The following results were obtained.

Of those seniors categorized as frail (that is of low functional capacity, with no family, and having limited neighbourhood and community contacts) 71 per cent experienced difficulties in reaching health care, as compared to 26 per cent of those classified as semi-frail (that is possessing two or more of the above characteristics), and 12.5 per cent of those non-frail (that is one or none of the frailty characteristics). A test for proportion differences did indicate that the variations between the three groups were statistically significant at the 0.05 significance level. The frail elderly within the present data set can therefore be distinguished as the group most likely to experience difficulties in reaching health care, a conclusion supporting the previous studies of Rathbone-McCuan and Hashimi, 1982; and Kart, 1981; and indicating

further the importance of heterogeneity amongst the elderly in understanding health care accessibility problems.

VI. THE PROVISION AND DELIVERY OF HEALTH CARE FOR THE ELDERLY

A. Introduction

The first thesis hypothesis examined the relationship between the elderly and primary health care services from the demand side of the equation, that is the consumer point of view, considering factors that caused the elderly not to use, or have difficulty in using, the available services. The second hypothesis, as a complement to the first will examine the supply side of the equation, that of the provider of health care the health services themselves. By considering both sides of the health service/patient dichotomy a better understanding of the overall problem was thought possible.

The second hypothesis raised stated:

> That the current specialized geriatric health care services within Edmonton are inappropriate given the numbers of elderly (65 years of age or over), and that for the selected population the delivery of the current primary medical care services provides treatment that decreases in quality as age, functional incapacity and social isolation increase.

as with the first hypothesis, this hypothesis was also discussed and elaborated upon in general terms throughout the Introductory Chapter. Within this section the questionnaire, participant observation and health service data gathered will be used to test the overall validity of the statement. The hypothesis will initially be divided into two main lines of inquiry (see Introductory section also) and then a series of sub-hypotheses will be tested. By way of introduction, however, a brief review of the overall data collected indicated the following.

The data from the questionnaire sample, which looked particularly at the delivery side of the available health care, produced the following results. On the positive side, 83.2 per cent of the sample respondents indicated that the doctor/physician did usually understand their health problems, with 64.2 per cent suggesting that they received a continuity of service, that is they were seen by the same doctor or nurse during their visit(s) to the health services.

On the negative side, however, 38.3 per cent of the respondents, said that they delayed in seeking health care when they thought that they needed treatment, and approximately 40 per

cent had not received a medical check-up within the last six months. Finally, under 10 per cent of the sample indicated that their doctor/physican made house calls and visited them at home when they were either ill or incapacitated.

The data from the participant observation exercise also concentrated upon the delivery side of the health services provision for the elderly and the seniors were questionned generally and informally regarding their views on the health services particularly the delivery of health care to them. A similar open-ended question to that used in the questionnaire was repeated within this informal context due to the high rate of non-completion of the same question within the questionnaire study. Attempts were also made to develop detailed studies of those seniors who expressed an interest in the discussions in order to provide a qualitative complement to the otherwise quantitative data set.

The final research area, namely the secondary data sources, provided a large body of information on mainly the provision side of the health services question. Both national and local, government and non-government, publications were referenced extensively as part of the study. Information being gathered from both the official health service publications themselves and those of independent bodies commenting specifically upon primary health care services, for example the Provincial Senior Citizens Advisory Council. Two local geriatricians were also contacted in an attempt to gain some 'inside' information concerning the health services and their priorities and organization regarding senior citizens, although generally this line of inquiry produced disappointing results.

The two main lines of inquiry from the general hypothesis are:

i. That the current specialized geriatric services are inappropriate given the large numbers of elderly, and

ii. That the elderly face problems with the delivery of the health care services.

These will now both be further sub-divided and explored.

B. Primary Health Care Services for the Elderly

The general characteristics of the elderly, for example, advanced age, general isolation, decreased capacity for self-care poor mobility and increasing health problems, do result in them being heavily dependent upon the available primary care services. The health care services aim to satisfy the demands of all citizens, from all age groups and with different and varied problems. There seemingly must be, however, at some stage a clash of interests as diverse groups with different needs compete for limited health care resources.

As far as the primary health care services in Edmonton are concerned a vast array of both physican and hospital facilities are currently available. Within the city area both services are provided at levels above the national average when compared to other Canadian cities on per capita bases (Chapter two). It would be misleading to conclude, however, that problems do not exist. At present, two major shortcomings are evident in the provision of primary health care for the elderly. These short-comings are not limited to Edmonton alone but are also apparent in many other Canadian and North American cities. They are:

i. A lack of day hospitals for the city.

ii. An underprovision of medically trained specialised geriatricians to deal with the growing elderly populous.

The day hospital provision

The current hospital provision within Edmonton, as reviewed in Chapter two, does provide from both the stand point of auxiliary and general hospitals a more than adequate coverage in terms of the number of beds and the range of facilities available. The present day hospital provision, however, does, require considerable extension in order to cater for the 36,000 plus seniors currently living within the city, especially given the cost-saving strategy of such facilities and the elderly's frequently voiced preferences for remaining within the community rather than accepting institutionalization in any form.

Day hospitals, as reviewed in chapter two, provide medical services mainly to seniors who are able to remain within the community and therefore prevent the need for institutionalization which is both expensive and can be traumatic for the individual patient. By providing this form of care day hospitals are, thus, able to take a substantial weight-load off both general and auxiliary hospitals helping to decrease waiting lists for hospital beds and saving medical expenses. They also have the added advantage of enabling patients to use health related programmes designed for diagnostic, rehabilitation and therapeutic treatments on a regular basis under the direction of trained health professionals.

The two day hospitals currently operating within Edmonton have the capacity to treat 500 patients on a regular basis, and despite the numerous calls for an extended service no such increased provision has been forthcoming. A senior geriatrician contacted at the General Hospital hypothesised that the present service would need to be doubled to adequately service the present elderly population.

From a geographical perspective the existing day hospitals are poorly located. While the Youville Wing at the General Hospital is centrally placed (11111-Jasper Avenue) and can serve the city as a whole given the distribution of the elderly (Figure 2). The second day hospital facility located at 14255-94 Street is located 50 blocks north and east of the city centre thus making it particularly inaccessible to the large numbers of elderly located on the south side (Figure 2). A third day care hospital if constructed would better serve the remaining elderly population if it were therefore located south of the river in the region of the University of Alberta Hospital.

Brocklehurst (1973) showed how day hospitals could be easily and effectively introduced by simply extending the operating area of existing general hospitals in four main service areas namely, rehabilitation, maintenance treatment, medical or nursing assistance and social care. At present, however, only one of Edmonton's five general hospitals has been extended to cater for Day Care patients representing an overall underprovison of day hospital facilities for the city. One detailed study from the participant observation informal discussion

groups highlighted the problems that the elderly often face when adequate day care coverage is not available. One member of the sample an elderly female, 80 years of age, who lived alone and had no family living in Edmonton, but was in contact with her neighbours, had just undergone a surgical hip-replacement operation. Due to the nature of the surgery and her advanced age she was forced to accept a period of hospitalization for three weeks after the operation. During this period in hospital she received intensive rehabilitation treatment in order to train her to walk again upon the new hip. This treatment could have been provided by a day hospital with the patient being collected from her home early in the morning taken for treatment and then returned home in the evening. The operation was undertaken last February and so her neighbours, also elderly, were unable to come and visit her in the hospital. She therefore received no visits during her three week period of hospitalization. Despite the friendly nature of all the staff she indicated that she did find the extended treatment away from home rather distressing.

The costs of this treatment were investigated by contacting the hospital in question. Although no specific figures were available the senior registrar did indicate that the costs of such treatment would have exceeded those for similar therapy on a day hospital basis. On the larger provincial scale similar evidence was also gathered showing the cost-saving advantages of day care.

Information from the Manitoba/Canadian Home care study programme indicated that in one month the home care programme resulted in a saving of $1.19 million for the 1,167 clients studied. Whilst equivalent figures for Edmonton were not available the annual operating expenditures for Alberta auxiliary hospitals and nursing homes institutionalizing the elderly in 1982/83 were more than ten times the amount spent on the one day care programme, the day hospitals and the co-ordinated home care programmes operating within the province.

Summary

In short, the present day hospital provision for the city of Edmonton is unsuitable given firstly, the present elderly population of over 36,000, secondly, the elderly's

preference for such treatment instead of institutionalization, and thirdly, the cost-saving benefits such a scheme entails over conventional hospital treatment. The present city hospital provision does, with its emphasis on acute short-term care treatment, create difficulties for the elderly who are more likely to face long-term episodic treatment more conductive to day care programmes rather than institutionalization.

Specialist geriatricians within the city

As with the overall hospital provision within Edmonton in terms of physicians per capita the city is more than adequately served. The figures , reviewed in detail in chapter two, show the city to be above both the national and provincial averages as far as the physician/population ratios are concerned. Regarding, geriatricians, however, the evidence suggests that the city is still under-staffed within this particular area of medical specialization. There are currently six geriatricians working within the city, although all six are based at one location, the recently opened Youville wing of the Edmonton General Hospital. The definition of a geriatrician, as provided by the Geriatric unit of the General Hospital is:

> 'a medically qualified man or woman, trained and experienced in the specialised area of geriatric medicine'.

While the majority of older persons will not need to see such medical specialists, a number of geriatricians are required for complex situations that might arise and for teaching in the area of health care for the elderly.

Edmonton's current provision of 6 geriatricians is below the minimum recommended for a city with 36,000 plus senior citizens. Clarkson's (1977) recommendation for a elderly population this size was a minimum of 7 to 8 (Chapter one). These recomendations, for 5 to 6 geriatricians for every 27,250 senior citizens, were supported by the senior medical staff at the Youville wing, suggesting that Edmonton is still facing a shortage of qualified geriatric specialists. Past studies have indicated, however, that geriatrics is still not a popular area of medical study (see chapter one). For example, despite lobbying by senior geriatricians within

the city the Alberta College of Surgeons still does not recognise geriatric medicine as a separate and distinct specialization within its annual directory of physicians. Furthermore, Skoll (1982), speaking at the Alberta Symposium on Aging, commented that the current teaching hospitals available for geriatric specialization were decidedly limited when compared to other more lucrative areas such as pediatrics and urology. He concluded that the present teaching facilities were inadequate from the standpoint of geriatric medicine, and that unless revised would be unable to train enough geriatricians in order to meet the demands of a growing elderly population.

Summary

In terms of the overall physician/population ratio the city of Edmonton is currently well served by its compliment of medical staff. For the elderly as a separate sub-group, however, discrepancies within the available health care personnel still exist. Despite the recent attraction of specialist geriatricians to the city the evidence shows that Edmonton still has an underprovision of medically trained physicians to deal with its current elderly population. Since the elderly population is expected to steadily increase in numbers over the next couple of decades, see Chapter two, more geriatricians will be required to meet the growing health needs and demands of an aging population. It is also recommended that the current distribution of geriatricians also be considered. The six current specialists within this field are all currently located at the Youville Wing of the General Hospital (11111-Jasper Avenue). While this focus does provide for equal access from different areas of the city it is recommended that if the current number is enlarged that some effort should be made to disperse these specialists throughout the city, especially given the travelling difficulties experienced by the elderly.

C. The Conclusion: Primary Health Care for Seniors within Edmonton

The primary health care services within Edmonton do provide a more than adequate coverage for the city population as a whole. From the standpoint of the elderly, however, two major omissions exist. These are, firstly, the lack of adequate day hospital coverage for the cities 36,000 plus senior citizens, and secondly, the underprovision of geriatricians (that is physicians with specialist training within the area of geriatric medicine).

Both of these shortcomings produce anomalies within the health care provision that discriminate particularly against the senior population. First, without the alternative of Day Hospital treatment seniors are increasingly subject to either institutionalization or hospitalization, alternatives that place a heavy financial burden annually on the health care services. Secondly, without an adequate coverage by specially trained geriatricans the city's elderly population are placed in a position of risk regarding both their general health and any long term clinical or surgical procedures that they must undergo. Geriatric medicine like pediatrics or renal medicine is an area requiring specialized training above and beyond the normal medical and surgical skills required by the family Doctor. The present underprovision of such specialists therefore lessens the quality of the care available to the elderly as a whole, suggesting that greater hardships may be ahead given the increasing numbers of senior citizens. As Skelton (1977) concluded

> 'Education must be developed in the disciplines of gerontology and geriatric medicine and health care professionals with appropriate skills, knowledge and attitudes must be produced with some urgency.' (p. 45).

These two cases of underprovision directly controvene both the criteria set down by the then Director of Social Planning, Donald L. Milne in 1977, for the city of Edmonton Health and Social services, which were designed to be, "appropriate for all age groups", and the general guidelines laid down by the committee convened by the World Health Organization (W.H.O.) to consider geriatric services which included the recognition that:

> 'The aged are a vulnerable and at-risk population of great numerical importance, and therefore require special attention. (p. 5).

In short, it can be concluded that the present primary health care within Edmonton does not cater sufficiently for the needs of the elderly in general.

D. The Delivery of Primary Health Care to the Elderly

While problems with the provision of health care have been noted the past literature also indicates that the quality of care provided for the elderly is also of a varying standard, and suggests that this care quality is related to the characteristics of the elderly themselves (O'Brien and Wagner, 1980; Skelton, 1977). Within the present study it was therefore hypothesized for a selected number of health care delivery issues that the quality, or standard of care received, would decrease as age, levels of functional incapacity and social isolation rose.

Delivery Variables

The delivery of health care was measured by reference to five main health service delivery issues drawn from the literature. These were:

i. Physician understanding of health care problems

ii. Home visits

iii. Time since last medical check-up

iv. Continuity of care by a single physician

v. Waiting room time

In order to test initially for multicollinearity between the variables, however, a zero-order correlation matrix was produced that combined all five of the dependent variables (Figure 12). On the basis of this matrix the variable "Continuity of Care by a Single Physician" was dropped from the analysis because of its inter-correlation with the variable "Physician Understanding of Health Care Problems." The latter was retained because of its suggested importance throughout the literature regarding the delivery of health care to the elderly (Skelton, 1977; Hazel, 1976). Before further analysis was completed, however, the

FIGURE 12

MEANS, STANDARD DEVIATIONS, AND ZERO ORDER CORRELATIONS FOR ALL VARIABLES N = 91

Variable	1	2	3	4	5	6	7	8	9	10	11
Alone	1.00										
Age	0.09	1.00									
Disability	-0.06	-0.44	1.00								
Family	0.11	-0.03	-0.07	1.00							
Neighbourhood	-0.05	0.00	0.16	-0.06	1.00						
Community	-0.05	0.12	-0.18	0.07	0.03	1.00					
Home Visits	-0.17	0.00	0.11	-0.10	0.10	-0.10	1.00				
Check up	0.09	0.16	-0.07	-0.05	-0.18	-0.20	-0.19	1.00			
Same Doctor	0.12	0.21	-0.03	0.16	-0.08	-0.06	-0.18	0.18	1.00		
Problem Understanding	0.11	0.10	-0.18	0.16	-0.28	0.14	-0.02	0.20	0.37	1.00	
Waiting Room	0.07	0.31	-0.17	0.12	-0.41	-0.09	0.07	0.19	0.18	0.16	1.00
Means	0.60	2.00	2.56	1.34	0.90	0.26	0.26	0.71	0.55	0.31	0.48
Standard Deviation	0.49	0.74	1.58	1.61	0.30	0.44	0.48	0.91	0.84	0.78	0.94

variables were individually considered in order to determine their overall relationships to the sample population.

Physician Understanding of Health Problems

For the present sample population 83.2 per cent of the respondents indicated that the doctor did usually understand their health problems, with only 12.6 per cent indicating that their physician did not. This result indicated that for the present sample the elderly were satisfied with their physician's understanding of their health care problems.

This result, however, although satisfactory from the patient viewpoint can also be interpreted from the geriatric specialist point of view. Skelton (1977) showed in undertaking a carefully controlled study with an elderly research population, albeit within the British context, that for every problem known to the health services regarding any one individual 1.8 further complaints were identified that had previously been unrecognized. These complaints included problems such as, auditory loss sufficient to cause difficulties in hearing a normal, conversational voice, obesity, and inadequate foot care problems that were often associated with locomotor disorders and frequently resulted in reduced mobility. These problems demonstrate the difficulties that physicians have in dealing with seniors when qualified geriatric assistance is not available.

One example from the data set did indicate some of the problems reviewed in the previous literature. The respondent a 77 year old female described how she had used the same doctor for a period of twenty-two years. She complained, however, that over the last two years the doctor had 'grown tired' of treating her. Her regular appointments were continually re-arranged and conducted in a 'cold and harsh' manner, with her final visit there culminating in her waiting in the reception area to see the doctor for two hours. In the summer as a result of this treatment she charged doctors and now reports no complaints from her new practitioner.

The above case study, however, was an isolated example of poor physician attitudes towards the elderly for the sample data set. Eighty-three per cent of the

respondents indicated that the their physician did usually understand their health problems.

Home Visits

The second area of delivery examined was that of home visits by physicians. Despite the importance of home visits, as past studies have indicated (Anholt, 1975; Ainsworth, 1968), the elderly rarely receive physicians within their homes. For the present sample only 9.5 per cent of the respondents indicated that, in the case of sudden illness, their physician would visit them at home to administer treatment. Twenty-six per cent did respond, however, that they could rely upon the secondary health service agencies to provide support if they were ill at home and confined to bed. Six per cent of the sample indicated that they would have no one to help them if they were in the above position.

It can therefore be concluded that despite the numerous recommendations for home visits for the 'at risk' elderly currently house calls are still not part of the available health care service. This policy places considerable burdens on particularly the elderly who face both transportation problems to and from health care (Smyer, 1980; Stirner, 1978; and Shannon et al, 1969), and whose 'health problems' are often related to social factors (Andersen, 1973; Stanton and Exton-Smith, 1970). An example from the participant observation data supported this conclusion.

The respondent on 88 year old female and recently widowed lived alone in her own house within central Edmonton. She suffered from chronic arthritis and due to the advanced nature of this condition was rendered practically immobile. She was able to do light housework and walk one or two blocks unaided in the summer (that is when the side-walks are clear). As part of the medical treatment for her arthritis she was required to attend the local medi-centre located only eight blocks away during the first couple of months of the year. The treatment consisting mainly of physiotherapy and mobility skills could conceiveably have been carried out within her home. A view supported by the consultant physician at the Edmonton General Hospital. Due, however, to the health service policy of limiting home care wherever possible the respondent was forced to take

taxi transportation to and from the medi-care centre. The cost of the taxi fare was approximately $3 per journey. Up to 4 journeys were required per week for a period of two months. Had home visits been available the respondent would have been saved the physical and financial burden of making the journey for treatment.

Time Since Last Medical Check-up

The third delivery aspect examined was that of the time period since the elderly had last recieved a medical examination. The need for regular physician/patient contact in the health care of the elderly has been evidenced throughout the medical sciences literature. Past studies, for example, Skelton (1977) and Andrews et al (1971) have concluded that the elderly do require a regular schedule of health visits in order to allow for the observation of symptoms which might otherwise be overlooked or disregarded by the seniors themselves. For the present data set, however, only just over half of those questioned, 52.6 per cent, had received a medical check-up within the past six months.

Waiting Room Time

The final area of delivery weakness discussed was that of waiting room time. Past studies, Hess and Markson, 1980, have suggested that the elderly often wait longer to receive treatment when visiting a physician due to the unwillingness of many doctors to treat elderly patients (Stephens, 1979). For the present data set 77.6 per cent of the respondents waited less that 30 minutes to see a physician with only 20.6 per cent having to wait 30 minutes or over. It can therefore be concluded that long waiting room times were not a problem for the sample elderly population as a whole.

Summary of Delivery Variables

Of the four delivery variables identified two, home visits and time since last medical check-up, were problem areas for the elderly sample population. Within the second hypothesis it was suggested that delivery weaknesses were related to the personal characteristics of the elderly themselves, with increasing age, decreasing functional

capacity, and increased social isolation resulting in the elderly receiving a lower quality of care. To test this hypothesis a series of chi-square associations and stepwise regressions were run.

The Impact of Personal Variables on Health Care Delivery

Of the 20 chi-square tests run investigating the relationships between delivery weaknesses and elderly personal characteristics only one significant association was determined (Table 7). As age increased so did the probability of waiting longer to see a physician.

Despite this general lack of associations between the variables a series of stepwise regression tests were also completed to see if there was any pattern of relative influence among the personal characteristic variables. (Due to multicollinearity the variable age was excluded see Chapter 5) The results again, however, proved inconclusive (Figure 13). For the dependent variable physician understanding of health care problems only neighbourhood contacts explained a statistically significant amount of the variance (7.9 per cent) with all the other personal variables remaining insignificant. For both home visits and time since last medical check-up no personal characteristics explained a significant amount of the variance. Finally, for waiting room time only one personal characteristic, neighbourhood contacts was isolated as explaining a significant amount of variance (16.7 per cent).

The overall results from the chi-square analyses and the stepwise regression tests were therefore somewhat inconclusive in indicating the relative importance of individual elderly personal characteristics on the delivery of health care. Neighbourhood contacts were identified, however, as the major influencing variable in two of the delivery aspects indicating that as this measure of social isolation increased so did the failure of physicians to correctly diagnose health problems and waiting room time increase.

Further analysis was attempted, however, in order to measure the influence of the combined elderly characteristics upon the delivery of health care. The sample was divided on the basis of their personal characteristics into 3 groups, (See Chapter 5), the frail, the

TABLE 7

WAITING-ROOM TIME BY AGE

Waiting Room Time	Age (years) 74 and under	75 - 84	85 and over	Total (n)
0 - 30 min	22	29	13	64
	34.4	45.3	20.3	
	88.0	72.5	59.1	
Over 30 min	3	11	9	23
	13.0	47.8	39.2	
	12.0	27.5	40.9	
Total (n)	25	40	22	87
	Chi-square = 5.07;	d.f. = 2	P 0.10	

FIGURE 13

STEPWISE REGRESSION OF INDEPENDENT VARIABLES ON PHYSICIAN UNDERSTANDING

Variable	Zero-Order Correlation	Multiple Correlation	Cumulative Variance	Beta	Variance Explained
Neighbourhood Contacts	0.28	0.28	0.08	0.28	7.9%
		F = 7.19 P < 0.0001 N = 91			

STEPWISE REGRESSION OF INDEPENDENT VARIABLES ON WAITING ROOM TIME

Variable	Zero-Order Correlation	Multiple Correlation	Cumulative Variance	Beta	Variance Explained
Neighbourhood Contacts	0.41	0.41	0.17	0.41	16.5%
		F = 15.63 P < 0.0001 N = 91			

semi-frail, and the non-frail in order to measure the influence of frailty generally upon the delivery of health care. Using a statistical test for proportion differences the following results were obtained (chi-square tests were not used because of the small cell numbers involved).

For both the dependent variables of physician understanding of health care problems and waiting room time significant proportion differences were found indicating that it was the frail elderly who firstly, did not have their health care problems correctly diagnosed by the physician (38.5 per cent as compared to 4.8 per cent for the semi-frail and 5.5 per cent for the non-frail), and who were forced on average to wait longer to see a physician and receive treatment (34.5 per cent as compared to 13.2 per cent and 12.1 per cent for the semi-frail and the non-frail respectively). On the basis of these findings it can therefore be concluded that it is the frail elderly within the present data set for whom delivery weaknesses are apparent within the current health care system.

E. Conclusion: The Delivery of Health Care to the Elderly

The results for the present study show that problems were evident within the delivery of health care to the sample elderly population. Two particular problem areas were isolated that need to be tackled if delivery is to be improved. Firstly, the regularity of health care service for the elderly needs to be improved. Regular medical attention is necessary given the elderly's general increased need for medical examinations which help to prevent illnesses and/or health problems before they have a chance to develop. The results for the sample showed, however, that the elderly were not receiving this regularity of care.

Secondly, home visits within the city are not a widely followed practice as far as the present sample of seniors was concerned, only 9.5 per cent of those questioned received physician home visits. The elderly have special needs within the health care context and special attention must be paid to these if effective treatments are to be provided.

In final conclusion it can be said that the delivery of health care within the city presents a particular problem for those elderly within the sample identified as frail. While individually

the personal characteristics of the elderly had little influence upon the quality of care delivered when combined their impact was much more significant. For example, those elderly classified as frail within the present data set were less likely to experience physician understanding of health care problems and more likely to wait longer to receive treatment than those classified as either semi-frail or non-frail.

VII. THESIS CONCLUSIONS

A. Introduction

The main objective of this thesis was the testing of two hypotheses concerning the elderly and their use of the primary health care services. Past studies have shown that the elderly face difficulties in firstly, reaching the available health care and secondly, problems in both the services provided and their subsequent delivery to them. The results of the present study provided similar findings also supporting these hypotheses.

The conclusions of the present study will be divided into four interrelated sections. Firstly, a brief review of the final results will be presented, secondly, the particular contribution of the present study will be outlined with regard to the literature. Thirdly, suggestions for future areas of research will be made and finally, general policy requirements will be suggested in light of the present study.

B. Thesis Results

The thesis results supported both of the hypotheses raised. Firstly, with reference to the first hypothesis the sample elderly did face difficulties in travelling to the available primary health care facilities and secondly, they also faced problems with the health care that they received and its subsequent delivery to them. Just under one third of the sample (31.4 per cent) indicated that they did face some difficulties in reaching health care, with the two main problems faced being the lack of a travelling companion and the unsuitability of service opening times. If one third of all the community based elderly within Edmonton encountered such difficulties then these problems could be affecting up to 12,000 seniors throughout the city. The results also showed that difficulties in reaching care were explained more by personal characteristics than geographic factors, and were likely to increase as functional capacity fell and social isolation (loss of immediate family) increased.

With reference to the second hypothesis the current provision of health care was inappropriate for the elderly population given the present underprovision of both day hospitals and specialist geriatricians within the city. Firstly, the two existing day hospitals have a current capacity to accommodate 450 patients, compared to the general hospital provision of 3775 patients and the auxiliary hospital capacity of 1625. The elderly currently occupy 80 per cent of all auxiliary beds throughout the city, facilities that would be available for more diverse use if the present day hospital provision was expanded.

Secondly, the specialist geriatrician has an important role to play in the health care of any large urban population. The elderly do periodically need specialized treatment requiring the skills and training of a qualified geriatrician. Such trained medical specialists are also able to teach within their respective disciplines, thereby passing on important information regarding care for seniors. Despite recommendations to the contrary, however, Edmonton still has an underprovision of such specialists.

In health care delivery the elderly were firstly,still denied home visits by physicians, with only 9.5 per cent of the sample respondents indicating that their doctors did visit them at home. The policy of not visiting patients at home is one that covers primary medical care as a whole, and is not limited to just the elderly population. Many of the elderly, however, as described in the first hypothesis, do face accessibility problems in reaching health care, problems that generally do not affect all patients. Home visiting by physicians would initially be one method of solving these problems. Secondly, many of the health problems of the elderly are not simply related to illness or disease symptoms, but are often a product of difficulties in the home or with domestic arrangements. Therefore, unless the physician is aware of these factors incorrect or unsuitable diagnoses and treatments may result. Additionally, only just over half of the sample population, 52.6 per cent, had received a medical check-up within the last six months, despite the elderly's increased need for such services on a regular basis. The data also showed that those seniors identified as frail faced longer waits on average when visiting the physician, and were also less likely to have their health care problems accurately diagnosed by

their doctor.

C. Thesis Contribution

The present study although working with a selected urban elderly population did produce some findings relevant to both the gerontological and the geographical literature. Firstly, from the perspective of the gerontological literature the study has provided a testing ground for the previously identified characteristic variables of the elderly and their influence upon difficulties in physically reaching health care and questions of health care delivery. The results produced bore out the findings of much of the previous work although overall the levels of explanation acheived by the selected variables of age, functional capacity and social isolation were low, with only level of disability and family visits having a significant influence upon accessibility and neighbourhood contact upon delivery. This lack of explanation suggests the need to consider ways of refining these variables in order to better explain difficulties for the elderly in accessibility and delivery of health care. Seemingly, the recognition of the elderly as a series of heterogeneos groups would provide such a focus with an attempt being made to view the relative influence of such variables for different groups of seniors (for example the frail elderly).

From the geographical point of view this study has clearly demonstrated the relative importance of the personal characteristics of the selected elderly population ahead of external geographic factors in influencing accessibility to health care. This suggests that geographers currently working within the health care field, as they are increasingly tending to do, should recognize the importance of socio-economic variables in order to interpret problems seemingly geographic in nature such as accessibility, The past study has indicated, however, that these variables in their present form, for example age simply in terms of years, are relatively poor indicators of behaviour within the health care context. Therefore, greater refinement of these measures is required with a theoretical framework being developed in order to better interpret their influence or lack of influence upon behaviour. The reliability of socio-economic

characteristics as predictors of behaviour is becoming increasingly open to doubt, hence the need for the development of more refined, possibly even qualitative measures, in order to 'explain' behaviours.

D. Areas of future research

As a result of both the present study and the associated analysis of much of the previous literature several key research areas and requirements emerged. The essential requirement for future research within the area of the elderly, and services for them, is the need to organize some of the often fragmented research into a more coherent framework involving the use of private goods, social services, as well as health services in order to establish, and better understand, patterns of use or non-use. This research will be best served by using the skills of many different disciplines, since gerontology is essentially an inter-disciplinary area where the contributions of many schools of thought are applicable to further understanding, be it psychology, sociology, the medical sciences or geography.

This need to better understand the interactions between service cultures and the cultures of the elderly client groups will be furthered by the recognition of the elderly as a series of heterogeneous groups rather than one homogeneous body. One of the earliest, and most important, concepts developed within gerontology was the division of the senior cohort into varied sub-groups all with different needs and aspirations. An example of one of these groups would be the frail elderly, as defined within the present study. The characteristics of this group include very limited physical resources and the need for large amounts of medical treatment and care. By better understanding the characteristics and needs of such diverse groups their relationships with the health care services will be more fully understood.

From the standpoint of the frail elderly more empirical research is further required to determine the characteristics of this elderly sub-group, especially given their heavy reliance upon the current service cultures. The results of the present study showed the importance of the variables functional capacity and social isolation on the use or non-use of the health care

services within a selected sample. More empirical data is therefore required to investigate further their influence upon service use in a broader context, considering both causal relationships, and any internal associations between the variables themselves. In short, only by an understanding of both the service cultures and those of the different elderly sub-groups will the relationships between the elderly and services be better understood. Similarly, a greater focus could now be placed upon the outreach elderly, that is those currently using an available service but in a limited capacity. This group of seniors seemingly represents a interesting study sample since they are in the complex position resting between those seniors who are well integrated and involved within the community and those who are currently not. The results from the present study indicated that the outreach seniors are currently a heterogeneous body with varied needs and resources to satisfy these needs.

In short, the key areas for future research include the elderly and their use of public services generally, with specific reference made to the key variables of that influence this relationship. From a service view-point such research, besides explaining more about the elderly, and their role in society, would also provide a means of saving service dollars in the long-run, by helping to eliminate wasteful duplication and overprovision of unneeded facilities.

E. Health Care Policy Refinements

With any selected sample population the generalizations that can be drawn from it are limited. Within the present study therefore any policy recommendations that are to be made must be of a general nature. Accepting this general pre-requisite the following policy refinements are suggested.

The current primary health care services within Edmonton provide a plethora of available treatment centres and related facilities for the city as a whole. Five general hospitals, 6 auxiliary hospitals and 1324 physicians currently work within the city. The relationship between the elderly and the primary health care services is, however, influenced by several major problems. These problems relate to the current health care structure and are essentially

organizational and policy orientated.

The current goals of the health services include an attempt to make health care freely available, accessible and responsive to the needs of those dependent upon it. The elderly, overall, are the major beneficiaries of health care treatment, and use more services per capita than any other age group. The results of both past studies,and those of the current research, have shown, however, that in many ways the health services are presently ill-equipped to deal with the demands of an aging population. While the overall facilities and technology are available to treat the elderly current policy weaknesses confound their effective application.

The elderly in using the health care system do not fit into the present short-run, or temporary care, model that has guided public assistance efforts over the past couple of decades. The key to treating the elderly involves the adoption of a long-term care continuum of services concept that can provide the least restrictive method for meeting the particular needs of the elderly. The present short-term care model results in public health care that is interventive, cyclic and of limited duration. Aging is not a short-term process, therefore, service models based on the premise that the problems of aging are self-limiting are likely to fail. Moreover, dependency brought on by aging can be lessened, but it is unlikely that it can ever be eliminated. The long-term care concept provides a conceptual view of dependency that represents an important break with the prevailing approach to public assistance, one tied closely to the notion that dependency is brought on only by some personal short-comings.

Two examples from the present study of the problems of the short-term care approach include firstly, the lack of physician home visits, and secondly the lack of frequent medical examinations for the selected elderly population. The introduction of both of these refinements to current health care policy is presently thwarted by the rationale of the short-term treatment model.

F. A Concluding Statement

In final conclusion it can be said that the manner in which the elderly will be treated in the future will depend not only on innovative service ideas, new legislation, and increased public funding, but also a change in attitudes. Any change in the treatment of the elderly will follow firstly, from a change in attitudes towards seniors and changes in the public's image of the elderly and secondly, from the adoption of the view that the elderly are not incapable of functioning within society, rather than emphasizing ways of removing them from it.

For the health care of seniors a long-term strategy of services is needed that presents medical care within the context of the other social services required by the elderly such as home-help care, visiting programmes and meals on wheels. Skoll (1981),Director of the Saskatchewan Seniors Bureau concluded that:

> 'Health services for the elderly per se, are but one important element in the total spectrum of the provision for the need of old people. Social services, income support, housing, transportation, employment opportunities and a host of other factors also affect the health and quality of life of the elderly.'(P.25)

In short, the present strains imposed upon the health and welfare services by the elderly will not be relieved simply by the provision of more hospital beds.

Further advances in services for the elderly will also result if the aged themselves are better able to voice their opinions and concerns. The most effective method of achieving this goal would be through some form of political representation, a recommendation specifically put forward at the Second Canadian Conference on Aging (1983). Currently within Alberta and Edmonton, as discussed in chapter 2, many of the so-called senior citizen organizations are not voicing effectively the opinions and needs of the elderly they claim to represent.

Peto (1984) , a geriatric physician at the Edmonton General Hospital, stated further that:

> 'The professional care giver must learn to allow patients to be involved in desicions about their care.'

concluding that:

'If the elderly become involved participants in their own health care, and if they become more assertive, then they will become masters of their future.'

The elderly do face problems similar to many minority groups in that their needs and aspirations are often overlooked within the general allocation of health care resources. By the elderly becoming more involved, however, and their special needs being brought to the attention of the service agencies, progress will be made.

Bibliography

Adrian, C. 1983. Centralised service provision: an examination of the facts. *Australian Geographical Studies* 21: 251:258.

Alberta Social Services and Community Health Department.1979. *A working paper: understanding and working with older people.* Edmonton, Alberta: Senior Citizens Bureau.

Andrews, G.R., Cowan, N.R., and Anderson, W.F. 1971. The practise of geriatric medicine in the community: an evaluation of the place of health centre. In *Problems and progress in medical care: essays on current research,* ed. G. Mclachlan. Oxford: Oxford University Press.

Ainsworth, T.H.R. 1968. Physician involvement is rx for resistance to home care. *Hospitals 42:* 83-84.

Alderson,M.R.1970. Social class and the health service. *The medical Officer*124:50-2.

Anderson, R. and Newman,J. 1973. Social and individual determinants of medical care utilization in the United States. *Millbank Memorial Fund Quaterley. Health and Society* 51; 95-124.

Anderson,R.M.,McCutchion,A.,Aday,L.A.,Chiu,G.Y.,Bell,R. 1983. Exploring dimensions of access to medical care. *Health Services Research*18:49-74.

Anholt, L.M. 1975. Geriatrics and Gerontology Province of Alberta. Mimeographed. p. 6.

Auerbach, M., Gordon, D.W., Ullman, A., Weisel, M.J. 1977. Health care in a selected urban elderly population. *Gerontologist* 17: 341-347.

Barnett,J.R.1978.Race and physician location: trends in two New Zealand urban areas. *New Zealand Geographer*34:2-12

Battistella, R.W. 1971. Factors associated with delay in the initiation of physician care among late adulthood persons. *American Journal of Public Health* 61: 1348-1361.

Beattie,W.M.1976.Aging and the Social Sciences in R.H.Binstock and E.Shanas(eds) *Handbook of Aging and the Social Sciences* New York:Von Norstrand.

Beaver,M.L.1983.*Human service practise with the elderly.* Englewood Cliffs,N.J.: Prentice-Hall inc.

Beckerman, W. 1975. *Two cheers for the affluent society.* New York: Saint Martin's Press.

Bice, T.W. 1972. Socio-economic status and use of physician services: a reconsideration. *Medical care* 10: 261-271.

Bish, R.L. and Ostrom, V. 1973. *Understanding urban government: Metropolitan reform reconsidered.* Washington, D.C.: American Enterprise Institute for Policy Research.

Bradshaw,J.1972. A Taxonomy of Social Need in G.Mclachlan(ed) *Problems and Progress in*

Medical Care Oxford:OUP

Brickner, P.W. 1973. Finding the unreached patient. *Journal of American Medical Association* 225: 1645.

Brickner, P.W., Janeski, J.F., Rich, G., Duque, T., Skarita, L., LaRocco, R., Flannery, T., Werlin, S. 1976. Maintenance for the home-based aged. *Gerontologist* 18: 25-29.

Brocklehurst, J.C. 1973. Medicine in old age: role of day hospital care. *British Medical Journal 4:* 223-225.

Brody, S. 1974. Evolving health delivery systems and older people. *American Journal of Public Health* 64: 245-48.

Butler, R.N. 1975. *Why Survive? Being Old in America.* New York: Harper and Row.

Calgary Social Services Dept. 1983. *Profile of the elderly in Calgary: a demographic profile and needs assessment.*

Cantor, J. and Mayer, M. 1976. Health and the inner city elderly. *Gerontologist* 16: 17-25.

Chalmers,T.C. and Stern,A.R.1981.The staggering cost of prolonging life. *Business Week* Feb.23:17-19.

Chamberlain, R.W. 1965. *Private and public planning.* New York: McGraw-Hill.

Clark, J.M. 1957. *Economic institutions and human welfare.* New York: Alfred A. Knoff.

Clark, R.L. and Spengler, J.J. 1980. *The economics of individual and population aging.* Cambridge: Cambridge University Press.

Coates, B.L. 1977. *Geography and Inequality.* Oxford: Oxford University Press.

Coulton,C.,Frost,A.K.1982. Use of social and health services by the elderly *Journal of Health and Social Behavior*23:330-9

Cutler, S. 1974. The effects of transportation and distance on voluntary association participation among the aged. *International Journal of Aging and Human Development* 5: 81-94.

Curtis,S.E.1982. Spatial analysis of surgery locations in general practise *Social Science and Medicine* 16:303-313

Davis, K. and Reynolds, R. 1975. Medicare and the utilization of health care services by the elderly. *Journal of Human Resources* 10: 361-77.

Denney, J.A. 1976. Problem solving: a comparison of middle and old age. *Developmental Psychology* 9: 275-78.

Diamond,L.M.,Gruenberg,L.,Morris,R.I.1983. Elder care for the 1980's *Gerontologist* 23:148-54

Ebert, B. and Kerr, B. 1979. *Community health nursing Services for the elderly in Alberta: a discussion paper.* Alberta: Alberta social services and community health.

Eckert, J.K. 1980. *The unseen elderly - a study of marginally subsistent hotel dweellers.* San Diego: The Kampanile Press.

Edmonton Social Services. 1977. *A plan for the development of services for senior citizens in Edmonton.* Edmonton: Social Planning section, Edmonton Social Services.

Engelman, M. and Stevenson, C. 1980. *Profile of older persons in Alberta: Demographic characteristics and service utilization.* Alberta: Social Services and Community Health.

Estes, C.L. 1973. Barriers to effective community planning for the elderly. *Gerontologist* 13: 178-183.

Fiedler,J.L.1981. A review of the literature on access and utilization of medical care *Social Science and Medicine* 15c:129-148

Florida Institute of Gerontology. 1970. *Health care services for the aged.*

Friedson,E.1970.The profession of medicine. New York:Dodd Mead

Fulgroff, B. 1978. Social gerontology: a review of recent and current reserach. *Gerontologist* 18: 42-58.

Gaitz, C.M. 1974. Barriers to the delivery of psychiatric services to the elderly. *Gerontologist* 14: 210-14.

Garetz, F. and Peth, P. 1974. An outreach program of medical care for aged high-rise residents. *Gerontologist* 14: 404-07.

Garfinkel, R. 1975. The reluctant therapist. *Gerontologist* 15: 136-37.

German, P.S. 1975. Characteristics and health behaviour of the aged population. *Gerontologist* 15: 327-32.

German, P. S. et al 1978. Health care of the elderly in medically disadvantaged populations. *Gerontologist* 18: 547-56.

Gerontology Research Council of Ontario. 1982. *Research issues in aging.*

Golant, S.M. 1979. *Location and environment of elderly population.* Washington, D.C.: V.H. Winston and Sons.

Grant,P.R.,Rice,B.1983. Transportation problems of the rural elderly *Canadian Journal on Aging*2:107-124

Gould,P.,Leinbach,T.R.1966. An approach to the geographic assignment of hospital service *Tijdschrift voor Economische*57:203-6

Government of Canada. 1982. *Canadian Governmental Report on Aging.* Ottawa: Minister of Supply and Services.

Government of Canada 1982. *Manitoba/Canada Home care study. An overview of the results.* Ottawa: Canada National Health and Welfare.

Grass, P.F. 1972. Urban health disorders, spatial analysis, and the economics of health facility location. *International Journal of Health Services* 2: 64-83.

Greenlick, M.R., Hurtado, A.V., Pope, C.r., Saward, E.W., Yoshioka, S.S. 1968. Determinants of medical care utilization. *Health Services Research 3:* 296-303.

Gross, M.J. and Schwenger, C.W. 1981. *Health care costs for the elderly in Ontario, 1976-2026*. Toronto: Ontario Economic Council.

Guzick,D.S.1978. The demand for G.P.'s services *Health Services Research*4:351-368

Hammerman, J. 1974. Health services: their success and failure in reaching older adults. *American Journal of Public Health 64:* 253-56.

Harbert, A.S. and Ginsberg, L.M. 1979. *Human Services for older adults:* concepts and skills Belmont, California: Wadsworth.

Harris, R. 1975. Breaking the barriers to better health care delivery for the aged. *Gerontologist* 15: 52-7.

Harvey, D. 1973. *Social justice and the city*. London: Edward Arnold.

Haynes,R.M.,Bentham,C.G.1979. *Community hospitals and rural accessibility* Farnborough:Saxon House

Hazell, K. 1976. *Social and medical problems of the elderly*. London: Hutchinson.

Heenan,L.D.S.1980. Health service planning and projected population change *Social Science and Medicine*14d:241-9 Herbert,D.T.,Thomas,C.J.(1982) *Urban geography-a fresh approach* Chichester:Wiley

Hess, B.B., and Markson, E.W. 1980. *Aging and old age*. New York: MacMillian.

Howell, S.C., and Loeb, M.B. 1969. Nutrition and aging - a monograph for practitioners. *Gerontologist* 9: 1-116. Huff,D.L.1960. A topgraphic model of consumer space preferences *Papers and Procedings of the Regional Science Association*6:159-174

Ingram,D.R.,Clarke,D.R.,Murdie,R.A.1978. Distance and the decision to visit an emergency department *Social Science and Medicine*12:55-62

Jones, B.D. 1980. *Service delivery in the city*. New York: Longman.

Joseph,A.E.,Phillips,D.R.1984. *Accessibility and utilization: geographic perspectives on health care delivery* London:Harper Row

Kaye, I. 1973. Transportation problems of the older American. In *The neglected older American: social and rehabilitation services* Cull, J., and Hardy, R. Springfield: Charles C. Thomas.

Kart, C.S. 1981. *The realities of aging*. Boston: Allyn and Bacon.

Keeler,E.B. et al .1982. Effect of patient age on the duration of medical encounters with physicians *Medical Care*20:1101-1108

Klein, L.E. 1982. Aging and its relationship to health knowledge and medication compliance. *Gerontologist* 22: 384-8.

Knox,P.L.1982. The geography of medical care delivery:an historical perspective *Geoforum* 12:245-250

Knox,P.L.1978. The intraurban ecology of primary medical care:patterns of accessibility and their policy implications *Environment and Planning*10:415-435

Kovar, M.G. 1977. Health of the elderly and the use of health services. *Public Health Report* 92: 9.

Larsen, D.E. and Rootman, I. 1976. Physician role performance and patient satisfaction. *Social Science and Medicine* 10: 29-32.

Lasagna, L. 1969. Aging and the field of medicine. *In Aging and society: aging old the professions,* ed. Riley, M., Riley, J., Johnson, M. New York: Russell Sage Foundation. 10: 29-32.

Law, R., and Chalmers C. 1976. Medicines and elderly people: a general practise survey. *British Medical Journal* 1: 565-68.

Lawton, M.P., 1980. *Environment and aging.* Monterey, California: Brocks/Cole Publishing Company.

Lawton, M.P., and Hoover, S.L. 1981. *Community housing choice for older Americans.* New York: Springer Publishing.

Lawton, M.P., Newcomer, R.J., and Byerts, T.O. 1976. *Community planning for an aging society: designing services and facilities.* Stroudsbery, Pennsylvania: Dowden, Hutchinson and Rossini.

Lawton, M.P., Windley, P.G., and Byerts, T.O. 1982. *Aging and the environment.* New York: Springer Publishing Company.

Lefroy,R.B.,Page,J.1972. Assessing the needs of elderly people. *Medical Journal of Australia* 2:1071-5

Leinbenstein, R. In Harvey, D. *Social justice and the city.* London: Edward Arnold. P. 97.

Leinbach, R.M. 1982. Alternatives to the face-to-face interview for collecting gerontological needs assessment data. *Gerontologist* 22: 78-83.

Lenzer, A. 1977. Health care services. In *the later years: social applications of gerontology,* ed. R.A. Kalish. Monterey: Brocks/Cole Publishing Company.

Levy, F.S., Meltsner, A.J. and Wildavsky, A. 1974. *Urban outcomes, schools, streets and libraries.* Berkeley: University of California Press.

Lewis, O. 1966. *La vida: a Puerto Rican Family in the Culture of Poverty.* New York: Random House.

Lineberry, R.L. 1977. The politics and economics of urban services - an introduction. *Urban Affairs Quarterly* 12: 105-25.

Lineberry, R.L. 1977. *Equality and urban public policy - the distribution of municipal public services.* Beverly Hills: Sage Publications.

Lineberry, R.L., and Welch. R.E. 1974. Who gets what: measuring the distribution of urban public services. *Social Science Quarterly* 54: 700-12.

Lively,C.E.,Beck,P.G. 1927. The rural health facilities of Ross county Ohio *Ohio AES Bulletin* 412:45-6

Lohn, H., McCuan, E.R., and Hsu, J. 1975. Cost effectiveness of geriatric day care: final report. *Gerontologist* 15: 95.

Lowther, C.P., Macleod, R.D.M., and Williamson, J. 1970. Evaluation of early diagnostig services for the elderly. *British Medical Journal* 3: 275-77.

Massam,B.H. 1980. *Spatial search.* Oxford:Permagon

Massam,B.H. 1975. *Location and space in social administration.* London:Edward Arnold

Mckinlay, J. 1972. Some approaches and problems in the study of the use of services. An overview. *Journal of Health and Social Behaviour* 13: 115-52.

Mckinlay,J. 1970. The new latecomers for antenatal care. *British Journal of Preventive and Social Medicine* 24:52-7

Morrill,R.L.,Earickson,R.J.,Rees,P. 1970. Factors influencing distances travelled to hospitals. *Economic Geography* 46:161-171

Morris,J.M. 1976. Access to community health facilities in Melbourne *Australia and New Zealand Regional Science Association* 1:143-173

Miller, E.J., and Gwynne, G.U. 1972. *A Life apart.* London: Tavistock Publications.

National Council on Aging. 1970. *Centres for older people.* New York: Council on Aging.

Neugarten, B. 1974. Age groups in American society and the rise of the young-old. In *Political consequences of aging - annals of the American Academy of Political and Social Science* 415, ed. Eisele, F.

Nozick,M.1974.*Anarchy, states and utopia.* New York: Basic Books.

O'Brien, J.E., and Wagner, D.L. 1980. Help seeking by the frail elderly: problems in network analysis. *Gerontologist* 20: 78-84.

Ostrom,E.1974.Exclusion, choice and divisibility:factors affecting the measurement of urban agency output and impact. *Social Science Quarterly*54:691-99.

Page, B. 1983. *Who gets what from government.* Berkeley and Los Angeles: University of California Press.

Palmore, E. 1971. Variables related to needs among the aged poor. *Journal of Gerontology* 26: 524-31.

Patterson, R.D. 1976. Services for the aged in community mental health centres. *American Journal of Psychiatry* 133: 271-81.

Pennock, J.R., and Chapman, J.W. 1967. *Nomos IX equality* New York: Atherton Press.

Petty, B.J. 1976. Support groups for elderly persons in the community. *Gerontologist* 16: 522-8.

Pfeiffer,E. 1975. Multidimensional functional assessment of the OARS methodology *Centre for the study of aging and the human environment* Durham:Duke University.

Phillips,D.R. 1981. *Contemporary issues in the geography of health care* Norwich:Geobooks.

Proceedings from the Alberta Symposium on Aging. 1982. *Guidelines for the Future Edmonton,* Alberta: Provincial Senior Citizens Advisory Coucnil.

- Provincial Senior Citizens Advisory Council. 1984. *Annual Report.*

- Provincial Senior Citizens Advisory Council. 1983. *Annual Report.*

- Provincial Senior Citizens Advisory Council 1979. *Proposal for an institute of gerontology in Alberta.*

Rathbone-McCuan, E., and Hashimi, J. 1982. *Isolated elders - health and social intervention.* Rockville, Maryland: Aspen Publications.

Rawls,J.1971.*A theory of justice.* Cambridge, Massachusetts:Harvard University Press.

Rich, R.C. 1982. *The politics of urban public services.* Levington, Massachusetts: Lexington Bocks.

Robinson, B.C. 1983. Validation of a care giver strain index. *Journal of Gerontology 38*: 344-8.

Roos,N.P.,Shapiro,E.,Roos,L.L. 1984. Aging and the demand for health care services: which aged and whose demand? *Gerontologist* 24:31-36.

Roos,N.P.,Gaumont,M.,Horne,J.M. 1976. The impact of the physician surplus on the distribution of physicians across Canada. *Canadian Public Policy* 2:169-191

Rowles,G.D. 1978. *Prisoners of space? Exploring the geographical experience of older people.* Colorado:Westview Press.

Rudzitis, G. 1982. *Residential location determinants of the older population.* Department of Geography; University of Chicago Research Paper no. 202.

Saskatchewan Senior Citizens Provincial Council. 1981. *Regina Social Support Study.*

Schwebel, A., Kershaw, R., and Reeve, S. 1973. A community organization approach to the implementation of comprehensive health planning. *American Journal of Public Health* 63: 675-80.

Senior citizens bureau. 1983. *A comparison of services for seniors in Alberta, Ontario, British Columbia and Saskatchewan,* Edmonton Alberta: Department of Social Services and Community Health.

Senior Citizens Bureau. 1982. *Older persons in Alberta their use of programs and services.* Edmonton, Alberta: Department of Social Services and Community Health.

Senior citizens bureau. 1981. *Survey of senior centres in Alberta.* Edmonton, Alberta: Department of Social Services and Community Health.

Senior citizens bureau. 1980. *Outreach to the aging community.* Alberta: Department of Social Services and Community Health.

Shannon, G. 1969. The concept of distance as a factor in accessibility and the utilization of health care. *Medical care review* 26: 143-161.

Shapiro,E.,Roos,N.P. 1985. Elderly non-users of health care services. *Medical Care* 23:247-257.

Shaw,S. 1975. Health of elderly people in G.Mclachlan(ed) *Problems of Health Care.* London:OUP

Skelton, D. 1977. The future of health care for the elderly. *Journal of the American geriatrics society* 25: 39-46.

Smith, A. 1776. *An inquiry into the nature and causes of the wealth* of nations. London: W. Strahan and T. Codell.

Smith, C. 1977. *The assessment and treatment of the confused elderly patient.* . Paper presented at the process of Aging. Edmonton, October 28 & 29, 1977.

Smith,D.M. 1979. *Where the grass is greener:living in an unequal world.* London:Penquin.

Smith,D.M. 1977. *Human geography :a welfare approach.* London:Edward Arnold.

Smith,D.M. 1974. Who gets what where and how: a welfare focus for human geography. *Geography* 59:289-297.

Smyer, M.A. 1980. The differential use of services by impaired elderly. *Journal of Gerontology* 35: 249-55.

Snider,E.L. 1982. Social indicators, health policy and the elderly. *Social Indicators Research* 11:405-19.

Snider, E.L. 1980. Awareness and use of health services by the elderly. *Medical Care* 18: 1177-1182.

Snider, E.L. 1976. *Health and related needs of the elderly.* Edmonton: Medical Services Research Foundation of Alberta.

Snider, E.L. 1973. *The medical services research project: Health care and the non-institutionalized senior citizen in Edmonton.* Edmonton: Medical Services Research Foundation of Alberta.

Solomon, K. 1982. Social antecedents of learned helplessness in the health care setting. *Gerontologist* 22: 282-288.

Solomon, K., and Vickers, R. 1979. Attitudes of health workers toward old people. *Journal of American Geriatrics Society* 27: 186-191.

Solon, J.A. 1966. Patterns of medical care: socio-cultural variations among a hospitals outpatients. American *Journal of Public Health* 56: 884-94.

Stanton, B.R., and Exton-Smith, A.N. 1970. *A longitudinal study of the diet of elderly women.* London: King Edwards Hospital Fund.

Stephens, B. 1978. *Attitudes towards aging, old age and older persons a review and discussion.* Edmonton: Senior Citizens Bureau.

Stimson,R.J. 1981. The provision and use of general practitioner services in Adelaide, Australia. *Social Science and Medicine* 15d:27-44.

Stirner, F.W. 1978. The transportation needs of the elderly in a large urban environment. *Gerontologist* 18: 207-12.

Streib,G.F. 1983. The frail elderly: research dilemmas and research opportunities. *Gerontologist* 23:40-44.

Symposium. 1975. The city: a viable environment for the elderly. *Gerontologist 15* 13-45.

Szasz, T.S. 1974. Illness and Indignity. *Journal of the American Medical Association* 227: 543-5.

Teitz, M.B. 1968. Toward a theory of urban public facility location. *Regional Science Association Papers* 21: 367-381.

Tullock, G. 1983. *Economics of income redistribution.* Boston: Kluwer-Nijhoff Publishing.

Totman, R. 1979. *Social causes of illness.* London: Souvenir Press.

Townsend,P. 1968. Problems in the cross-national study of old people in the family in E.Shanas, J.Madge *Methodological problems in cross-national studies of aging* New York:Kruger *Wiseman, R.F. 1978. Spatial aspects of aging.* Washington, D.C.: Association of American Geographers.

Ward, R.A. 1977. Services for older people: an integrated framework for research. *Journal of Health and Social Behaviour 18:* 61-70.

Wilson, J. 1982. Assessing the walking environment of the elderly. *Plan Canada* 21: 117-21.

Walmsley,D.J. 1978. The influence of distance upon hospital usage in rural N.S.Wales. *Australian Journal of Social Issues* 23:330-9.

Warnes,A.M. 1981. Towards a geographical contribution to gerontology. *Progress in Human Geography* 5:317-342.

Yordi,C.L. et al. 1982. Research and the frail elderly: ethical and methodological issues in controlled social experiments. *Gerontologist* 22:72-77.

Appendix

DEPARTMENT OF GEOGRAPHY
TELEPHONE (403) 432-3274

THE UNIVERSITY OF ALBERTA
EDMONTON, CANADA T6G 2H4

Dear Sir or Madam,

In this package is a questionnaire that is being delivered to approximately two hundred senior residents living in Edmonton. The purpose of this questionnaire is to find out what you, the senior residents of Edmonton, think about the available primary health care services, and how they might be improved to meet your needs. The present survey is in no way connected to any government agency, but is merely part of my research for a masters thesis in the Department of Geography at the University of Alberta.

Like all the other respondents, your name was selected at random from the residents of Edmonton. The success of any survey like this depends on your cooperation. After all, any improvements in the medical services can only be achieved if enough data is collected to put forward a well-balanced argument. I, therefore respectfully ask for your help in completing the questionnaire. You will probably find that it only takes about twenty minutes to complete.

I wish to emphasize strongly that your answers will be treated in the strictest of confidence.

Please take the time to complete the questionnaire.

Thank You.

Yours sincerely.

C.J. Smith
Graduate Student

HEALTH SERVICES AND THE ELDERLY IN EDMONTON

For each question either tick the appropriate box or write in the space provided. Please answer all the questions.

A. HOW YOU USE HEALTH CARE

1) What is your usual source of health care?

Private ☐ Public ☐

2) Do you know the NAME, ADDRESS and TELEPHONE NUMBER of your Doctor?

- ☐ Yes I know all three of them
- ☐ I only know one or two of them
- ☐ No I do not know any of them
- ☐ I have no Doctor

3) How many Doctor or Hospital visits have you made within the last six months?

- ☐ Less then four
- ☐ Four to nine
- ☐ Ten or more

4) When did you have your last medical check-up?

- ☐ Less than six months ago
- ☐ Six months to one year ago
- ☐ Over one year ago
- ☐ I cannot remember when my last check-up was

5) Are you seen by the same Doctor or Nurse during visits to health services?

- ☐ Yes
- ☐ No
- ☐ I never use the health services
- ☐ I do not know

6) Does the Doctor usually seem to understand your health problems?

- ☐ Yes
- ☐ No
- ☐ I never visit doctors
- ☐ I do not know

7) How long do you have to sit, on average, in the waiting room to see a Doctor?

- ☐ 0—30 minutes
- ☐ 31—60 minutes
- ☐ 60 minutes or more
- ☐ I never visit Doctors
- ☐ I do not know

8) Do you ever delay in seeking health care when you think that you might need it?

- ☐ Yes
- ☐ No
- ☐ I do not know

B. HOW YOU GET TO HEALTH CARE

1) What is your usual method of transport to medical care?

- ☐ Walk
- ☐ Bus
- ☐ Transport provided (please specify) _____
- ☐ Other (please specify) _____

2) How long does the journey usually take?

- ☐ Less than 30 minutes
- ☐ More than 30 minutes
- ☐ I have never travelled to health care
- ☐ I do not know

3) Do you ever experience difficulties in reaching health care?

- ☐ Yes
- ☐ No

If YES, suggest why (more than one answer is allowed)

- ☐ There is no one to take me
- ☐ The medical services are too far away
- ☐ The travelling costs are too expensive
- ☐ The Clinic or Doctor's hours are unsuitable

4) In the case of sudden illness how would you reach health care?

- ☐ Friends or relatives would take me
- ☐ I would call the police or ambulance for help
- ☐ My Doctor would visit me at home
- ☐ I never try to reach health care
- ☐ I do not know what I would do
- ☐ Other (please specify) _____

5) If you were ill at home and had to remain in bed who could you rely on to help you?

- ☐ Family
- ☐ Friends
- ☐ Health service agencies
- ☐ Other (please specify) _____
- ☐ No one

C) SOME PERSONAL INFORMATION

1) How old are you? _____

2) Are you a Female ☐ or a Male ☐

3) In what type of housing do you live?

- ☐ I live in an apartment, if so do you have either an
  - ☐ elevator or first floor walk-up
  - ☐ 2-3 flights of stairs
  - ☐ more than 3 flights of stairs
- ☐ I live in a house
- ☐ Other

4) Do you live alone?

☐ Yes
☐ No

5) My main source(s) of income is(are)

☐ Employment
☐ Government support
☐ Family or friends
☐ Other

6) Do you feel that your present income is sufficient to live on?

Yes ☐ No ☐

7) Do you have family members living in Edmonton?

Yes ☐ No ☐

If YES how often do they visit?

☐ once or twice a week
☐ once or twice a month
☐ once or twice every six months
☐ never

8) Do you know any of your immediate neighbours?

Yes ☐ No ☐

9) Apart from Operation Outreach do you use or receive any other community services?

Yes ☐ No ☐

if YES please describe which _____

_____

_____

10) Which of the following things are you still able to do?

☐ Heavy work around the house, for example washing walls or moving furniture
☐ Walk half a mile (about 8 city blocks)
☐ Go out to a movie, to church, to a meeting, or to visit friends
☐ Walk up and down stairs to the second floor
☐ Climb a ladder

D. ARE THERE ANY GENERAL COMMENTS THAT YOU WOULD LIKE TO MAKE CONCERNING YOUR EXPERIENCES WITH THE HEALTH CARE SERVICES WITHIN EDMONTON, OR YOUR LOCAL AREA? IF SO, PLEASE USE THE SPACE PROVIDED BELOW.

_____

_____

_____

_____

_____